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THE

JNIVERSITY of MARYLAND

BULLETIN



School of Medicine

1965-1967

The provisions of this publication are not to be regarded a an irrevocable contract between the student and the University of Maryland. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right, at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.

School of Medicine

THE UNIVERSITY OF MARYLAND

School Calendar For 1965-1967

1965

SEPTEMBER	7	Tuesday—1st year orientation	9 A.M.
		2nd and 3rd year registration	9 A.M.*
		2nd and 3rd year payment of fees	9 A.M.*
SEPTEMBER	. 8	Wednesday—1st year orientation	9 A.M.
		3rd year orientation	9 A.M.
		1st and 4th year registration	9 A.M.*
		1st and 4th year payment of fees	9 A.M.*
First sem	ester b	pegins September 9, 1965, and ends Januar	y 29, 1966
SEPTEMBER	. 9	Thursday—Instruction begins for all classed	
November	24	Wednesday—Thanksgiving recess begins a	at 5:00 P.M.
	29	Monday—Instruction resumes for all clas	ses.
DECEMBER	23	Thursday—Christmas recess begins at 5:0	00 P.M.
1966			
1900			
JANUARY	3	Monday—Instruction resumes for all class	ses.
	27	Thursday—Registration and payment of fe	ees for 2nd
		semester.*	
	28	Friday—Registration and payment of fees	for 2nd
		semester.*	
	29	Saturday—Last day of 1st semester.	
* AII	student	s are expected to complete their registration,	including the
payment of	fees on	regular registration days. Those who do not,	complete their
		prescribed days will be charged a PENALTY F	
The Office of	the Re	egistrar is in Howard Hall and the Office of the	Comptroller is
in the Univer	sity; bo	oth offices are open Monday through Friday from	m 8:30 AM. to
	Second	samastar hasing Monday January 21 10	66
LANILLADY		semester begins Monday, January 31, 19	00

JANUAR'	y 31	Monday—Second semester begins.		
FEBRUA	RY 22	Tuesday—Holiday—Washington's Birthday.		
APRIL	7	Thursday—Easter recess begins at 5 P.M. for years		
		3 & 4.		
	8	Friday—Easter recess begins at 5 P.M. for years 1 & 2.		
	12	Tuesday—Instruction resumes for years 3 & 4.		
	18	Monday—Instruction resumes for years 1 & 2.		
	19	Tuesday—National Board, Part II Examination**		
	20	Wednesday—National Board, Part II Examination**		
May	27	Friday—Classes cease at 5 P.M. for year 4.		
	30	Monday—Holiday—Memorial Day.		
	31	Tuesday—Classes cease at 5 P.M. for year 3.		
June	2 and 3	Thursday and Friday—Examinations for year 3.		
	3	Friday—Classes cease at 5 P.M. for years 1 & 2.		
	3	Friday—Pre-commencement Exercises—Baltimore.		
	4	Saturday—Commencement Exercises—College Park.		
	6	Monday—Examinations for years 1 & 2 through June 9.		
21	and 22	Tuesday and Wednesday—National Board Examina-		

tions, Part I*** ** National Board Examination dates are TENTATIVE dates.

^{***} National Board, Examinations, Part I, for sophomores are held in June; the dates will be posted on the bulletin boards in due time.

School Calendar For 1966-1967

1966

100		
AUGUST 227	Re-examinations for advancement	
26(Re-examinations for advancement	
SEPTEMBER 6	Tuesday—1st year orientation	9 A.M.
	2nd and 3rd year registration	9 A.M.*
	2nd and 3rd year payment of fees	9 A.M.*
7	Wednesday—1st year orientation	9 A.M.
	3rd year orientation	9 A.M.
	1st and 4th year registration	9 A.M.*
	1st and 4th year payment of fees	9 A.M.*

First semester begins September 8, 1966, and ends January 28, 1967

SEPTEMBER 8 Thursday—Instruction begins for all classes.

NOVEMBER 23 Wednesday—Thanksgiving recess begins at 5:00 P.M.

28 Monday—Instruction resumes for all classes.

DECEMBER 23 Friday—Christmas recess begins at 5:00 P.M.

1967

1907		
JANUARY	3	Tuesday—Instruction resumes for all classes.
	26	Thursday—Registration and payment of 2nd semester fees.
	27	Friday—Registration and payment of 2nd semester fees.
	28	Saturday—Last day of 1st semester.

^{*} ALL students are expected to complete their registration, including the payment of fees on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE OF \$20.00. The Office of the Registrar is in Howard Hall and the Office of the Comptroller is in the University; both offices are open Monday through Friday from 8:30 A.M. to 4:45 P.M.

Second semester begins Monday January 30, 1967

January	30	Monday—Second semester begins.
FEBRUARY	22	Wednesday—Holiday—Washington's Birthday.
March	23	Thursday—Easter recess begin at 5 P.M. for years 3
		and 4.
	28	Tuesday—Instruction resumes for years 3 and 4.
APRIL	14	Friday—Spring recess begins 5 P.M. for years 1 and 2.
	18	Tuesday—National Board, Part II Examination**
	19	Wednesday—National Board, Part II Examination**
	24	Monday—Instruction resumes for years 1 and 2.
May	27	Saturday—Classes cease at 12 noon for year 4.
	30	Tuesday—Holiday—Memorial Day.
	31	Wednesday—Classes cease at 5 P.M. for year 3.
JUNE	1	Thursday—Classes cease at 5 P.M. for years 1 and 2.
1 ar	nd 2	Thursday and Friday—Examinations for year 3.
	2	Friday—Pre-commencement Exercises—Baltimore
	3	Saturday—Commencement Exercises—College Park
		Campus.
	5	Monday—Examinations for years 1 and 2 through June

^{**} National Board Examination dates are TENTATIVE dates.

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Requirements For Admission

Policy on Admissions

Academic achievement, medical aptitude test scores, recommendations from college instructors or premedical committee, and personal interview are all carefully considered in evaluating an applicant. A student may be denied admission because of unsatisfactory reports in any one of these areas. Academic achievement alone does not automatically insure acceptance as the Committee is equally concerned with personality, aptitude, character, integrity, motivation, and assessment of the individual as a potential physician. Letters of recommendation are requested from at least two science instructors and one non-science instructor. Candidates will be expected to complete all required basic premedical subjects before July 1 of the year they are planning to enter.

Matriculants are required to accept the provisions of the Honor Code and to agree to assume its obligations prior to registration. A copy of the Honor Code and agreement form is sent to each candidate with

notice of acceptance.

Preference will be given to Maryland residents but well qualified applicants from other areas in the United States or Canada will be considered. Applicants from foreign schools must complete at least two years of premedical work in an approved college or university in the United States or Canada.

Definition of Resident and Non-Resident

Students who are minors are considered to be resident students if, at the time of their registration, their parents have been domiciled in this State for at least six months.

The status of the residence of a student is determined at the time of his first registration in the University, and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of the State by maintaining such residence for at least six months.

However, the right of the minor to change from a non-resident to resident status must be established by him prior to the registration

period for any semester.

Adult students are considered to be residents if, at the time of their registration, they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. Time spent on active duty in the Armed Forces while stationed in Maryland will not be considered as satisfying the six month period referred to above, except in

those cases in which the adult was domiciled in Maryland for at least one year prior to his entrance into the Armed Services and was not

enrolled in any school during that period.

The word domicile as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

Requirements for Admission to First Year Class

Careful attention should be given to the selection of elective courses particularly in the natural sciences. Except under unusual circumstances the stuent should plan a four year curriculum with a suitable Arts and Science major, leading to a bachelor's degree. A major in an area other than science is quite acceptable although it is not intended to divert students from a science major if this is their field of choice. The student taking science courses beyond the minimal requirements is encouraged to take such subjects as embryology, comparative anatomy, psychology, anthropology, physical chemistry, or cellular physiology. Courses duplicating medical school work, such as histology, neurology, biochemistry, mammalian physiology, human anatomy, and bacteriology are not recommended unless they are required in the student's major sequence. Having credit in such courses will not excuse students from taking them in medical school. In the non-science area courses in English, philosophy, sociology, economics, history, and government and politics are recommended.

A minimum of 90 semester hours (three academic years) of acceptable college credit are required exclusive of physical education and military science, earned in colleges of arts and sciences whose names occur on the current list of "Accredited Institutions of Higher Education" as compiled by the National Committee of Regional Accrediting Agencies of the United States. Applicants who will have earned a bachelor's degree in arts and sciences before registration for medical school from an approved college or university will be given preference over applicants who have not completed the requirements for the bachelor's degree. Only those courses will be acceptable which are approved for credit towards an A.B. or B.S. degree by the university

or college attended as well as the University of Maryland.

The following college courses and credits at an acceptable level are required before registering for Medical School.

	Semester Hours
General biology or zoology	8
Inorganic chemistry	8
Organic chemistry	6
Quantitative or physical chemistry	3
General physics	8
English	12
Foreign language	6

No more than 60 hours will be accepted from accredited Junior Col-

9

leges and then only if these credits are validated by a college offering a

Bachelor of Arts or Science Degree.

Medical College Admission Tests should be taken in May and must be taken no later than October of the year preceding the year of entrance. Applicants should write the Psychological Testing Corporation, 304 East 45th Street, New York, New York 10017, for further information and for registration forms.

Requirements for Admission to Advanced Standing

Students who have attended approved medical schools are eligible to file applications for admission to the second and third year classes only. These applicants must meet the current first year entrance requirements in addition to presenting acceptable medical school credentials, and a medical school record based on courses which are equivalent to similar courses in this school.

No student will be considered who has been dismissed from any medical school unless his former Dean submits a letter addressed to The Committee on Admissions stating the student is reinstated in good standing and eligible for promotion.

No student will be considered who is not eligible for promotion at

time of transfer.

Applicants for admission to third year class are required to complete satisfactorily the National Board Examination, Part I, before registration.

Persons who already hold the degree of Doctor of Medicine will not be admitted to the Medical School as a candidate for that degree from this University.

No applicants from foreign medical schools will be considered for

advanced standing.

Application for admission to advanced standing is made in accordance with instructions accompanying the application form.

Method of Making Application

Requests for application forms should be sent to The Committee on Admissions, School of Medicine, 522 West Lombard Street, Baltimore, Maryland 21201.

Application for admission to the first year class in September should be filed between July 1 and December 31 of the year preceding ad-

mission.

Candidates for admission who live or expect to practice Medicine in Pennsylvania or New Jersey should apply to their respective State Boards of Education for Medical Student Qualifying Certificates.

Instruction Leading to Degree of Doctor of Medicine

Organization of Curriculum

The curriculum is organized to permit students to acquire fundamental knowledge of the principles of medicine, establish habits of applying critical evaluation and judgment to problems of health and disease, and develop ethical principles which inspire trust in their patients and respect of the community.

Instruction encompasses four academic years. The first and second years are largely devoted to a study of the medical basic sciences. Introductory instruction in clinical areas is given in the second year. Instruction in the third and fourth years is principally of the preceptor type centered about the patient. Small student groups permit close personal relationships. Student research is encouraged during the summer recess and during the limited elective time permitted in the schedule. In most courses the final examination as the sole test of achievement has disappeared, and the student's final grade is determined by frequent examinations, recitations, conferences, and assigned work carried on throughout the course.

General Faculty Rules

The University authorities reserve the right to make changes in the curriculum, the requirements for advancement and graduation, fees, and in rules and regulations whenever expedient.

The School of Medicine does not accept responsibility for students' personal property.

Students who report for classes later than one week after scheduled time will be permitted to begin work only by permission of the Dean.

Attendance at all scheduled classes is expected.

Notice of change of address should be submitted promptly to the Dean's Office and to the Registrar's Office.

Grading System

Official grades are designated by these symbols:

"3", "2", and "1"—in rank from highest to lowest

P—satisfactory completion of course

F—failure

I—incomplete

C—condition

Students will receive a grade for the various disciplines in the manner outlined below:

> Anatomy Biochemistry Physiology Microbiology Pharmacology Pathology 3, 2, 1, F, I, C Psychiatry Surgery Medicine Pediatrics Ob-Gyn Neurology Radiology P, F, I, C Ophthalmology Anesthesiology Preventive Medicine

Advancement and Graduation

At the end of each academic year the Advancement Committe convenes to review the records of all students in each class. The estimate of a student's standing is based on academic achievement, his moral and ethical traits, and general evaluation of his fitness for a career in medicine. The committee recommends appropriate action to the Faculty Board.

- 1. All students will be required to take the comprehensive National Board Examinations, Parts I and II, and they will be expected to pass the examinations to be advanced from the second to the third year or to graduate respectively.
- 2. Students in all courses in which National Board Examinations are given will be rated "Q" (Qualifying), "C" (Condition) or "F" (Failure). Only those students having "Q" in the first year courses and no "F's" in the second year courses will be eligible to take National Board Examination, Part I. Only those students who have passed Part I, received all "Q's" in the third year courses and no "F's" in the fourth year courses, will be eligible to take the National Board Examination, Part II.

3. Students with "C's" in the second and fourth year courses may, at the discretion of the department head, remove the "C" by re-examination or by passing the National Board Examination in the subject in which they are deficient.
4. Students with a "C" in any first or third year course must

remove the "C" by re-examination before being eligible for promotion

to the second or fourth year.

5. Final grades will be assigned in those courses for which National Board Examinations are given only when the National Board Examinations are passed and will be 3, 2, 1.

6. Students who fail the National Board Examinations by National Board standards will receive a "C" in those subjects in which the score

is lower than 75.

7. A rating of "C" obtained as a result of failing the National Board Examinations must be removed prior to advancement from one year to the next or graduation by re-examination in the conditioned subject.

8. No student will be advanced on probation.

9. Students who fail re-examinations will be given an "F" and any student receiving more than one "F" in a major course in any one

year will be dismissed from the school.

Students with one failure or one failure plus one or more conditions, at the discretion of the Advancement Committee, may be allowed to remove the "F" by repetition of the course, the semester, the entire year at Maryland or the course at any school satisfactory to the department head, or may be dismissed.

Students who repeat a year and do not satisfactorily pass all courses with a better than minimum rating may, at the discretion of the Ad-

vancement Committee, be dismissed.

10. When circumstances beyond the student's control make it impossible for him to complete a course at the usual time, he will be given an Incomplete (I) until such time as he has completed the course. An "I" is in no way prejudicial to the final rating or grade of the student in the course, but must be removed prior to promotion to the next year.

11. The faculty reserves the right to determine if a student may withdraw, repeat, advance, or graduate on moral and personal grounds

including traits of character.

12. All discretionary actions of the Advancement Committee are subject to ratification by the Faculty Board and must be presented to them at their next meeting.

Certification for State Board Examinations

Students at the end of their second and fourth years will be certified to the State Board Examiners if they have successfully completed the requirements for promotion to the third year or for graduation.

Attendance at Graduation

All students are required to attend graduation. Permission to receive the degree in absentia must be obtained in advance from the Dean.

Additional Educational Programs

Baccalaureate Degree

Selected students entering the School of Medicine from colleges which usually grant a baccalaureate degree after the successful completion of the first year of medicine, are responsible for: a) providing a certificate from his college or university that he is eligible for this degree, and b) meeting all requirements of the School of Medicine for advancement to the second year.

Graduate Program

Graduate courses and research opportunities leading to advanced degrees are available in most of the basic science departments of the School of Medicine. Students pursuing graduate work must register in the Graduate School of the University of Maryland and meet the same requirements as other graduate students. Detailed information concerning fees, scholarships, and other material of general nature, may be found in the University publication titled *An Adventure in Learning*. This may be obtained from the Office of University Relations, North Administration Building, University of Maryland, College Park, Maryland.

Combined Doctor of Philosophy— Doctor of Medicine Program

Properly qualified medical students may elect to enter the combined educational program leading to Doctor of Medicine and a graduate degree. Such students may arrange a leave of absence of up to three years at the end of their second or third year in medical school to become candidates for either M.S. or Ph.D. in one of the basic medical sciences. Before entering the combined program, students must meet the requirements for admission to the Graduate School and be acceptable to the department of their choice as a candidate for an advanced degree.

Internships and Residencies

University Hospital offers the following graduate specialty training programs for interns and residents. These programs are approved by the Council on Medical Education and Hospitals.

University Hospital participates in the National Intern Matching Program to fill its 30 approved intern positions. The program includes rotating internships; straight internships in medicine, surgery, pediatrics and pathology; and mixed internships in medicine, surgery, and obstetrics and gynecology.

Approved residency programs are offered in the following specialty areas:

Department of Medicine: Internal Medicine, Dermatology

Department of Surgery: General Surgery, Neurological Surgery, Orthopedic Surgery, Thoracic Surgery, Otolaryngology, Urology

Department of Pediatrics: Pediatrics

Department of Psychiatry: Psychiatry, Child Psychiatry

Department of Anesthesiology: Anesthesiology

Department of Obstetrics-Gynecology: Obstetrics and Gynecology

Department of Pathology: Pathology Department of Radiology: Radiology Department of Neurology: Neurology

Department of Neurology: Neurology
Department of Preventive Medicine: Physical Medicine and
Rehabilitation

Department of Ophthalmology: Ophthalmology In total, approximately 225 resident positions are offered.

Appointments to intern and resident positions are made by the Director of the Hospital upon the recommendations of the House Staff Committee of the Medical Board or, in the case of residents, upon the recommendations of the appropriate Clinical Department Head. Correspondence and applications should be addressed to:

THE DIRECTOR University Hospital Redwood and Greene Streets Baltimore, Maryland 21201

Additional Educational Programs

Research training in international health is accomplished through the mechanism of a Research Associate program under the Institute of International Medicine. This program provides for post-doctoral training in research on a broad spectrum of health problems of developing nations.

Tuition, Fees and Registration

Current Fees

Application Fee	\$ 7.50
Matriculation Fee (New Students)	10.00
Tuition—Resident of Maryland	650.00
Tuition—Non-Residents	900.00
Laboratory Fee	25.00
Student Activities Fee	23.50
Student Health Fee	10.00
*Student Union Fee	30.00
**Special Fee	10.00
National Board Examination Fee	
(2nd and 4th year students)	10.00
***Hospital Insurance (Blue Cross—Individual Plan)	58.80
—Family Plan)	135.60

The application fee should be submitted with the formal application to medical school. A matriculation fee of \$10 and a deposit on tuition of \$50 is required of all applicants before the expiration date specified in the offer of acceptance. The deposit on tuition will be credited against first semester charges. In the event of withdrawal before registration the matriculation fee will be retained, and the advanced deposit will be returned on request, if requested before March 1.

Registration

For the fall semester, all students, after proper certification, are requested to complete a set of registration cards to be obtained from the Registrar's Office. All students are expected to complete their registration, including the payment of bills on the registration days. Those

^{*} The Student Union Fee is payable by all students enrolled in the Professional Schools on the Baltimore Campus and is used to pay interest on and amortize the cost of construction of the Union Building.

^{**} The Special Fee is payable by all full-time students enrolled in the Professional Schools on the Baltimore Campus and is used to finance equipment for the Union Building

^{***} Membership of the student in Blue Cross or any other acceptable hospital insurance is required. Each student must produce certified proof of such membership at the time of registration. Rates are subject to change.

16 Fees & Funds

who do not complete their registration on the prescribed days will be charged a fee of \$20.00.

One-half of the tuition fee and all of the following—the laboratory fee, the student health fee, the student union fee, the National Board Examination fee, the special fee, and the student activities fee are payable on the date specified for registration for the first semester. Blue Cross Hospitalization for six months in advance is paid at the beginning of each semester.

The remainder of the tuition fee shall be paid on the date designated for the payment of fees for the second semester. Fourth year students shall pay the graduation fee, in addition, at this time.

Non-Payment of Fees

If semester fees are not paid in full on the specified registration dates, a penalty of \$20.00 will be added.

If a satisfactory settlement or an agreement for settlement is not made with the business office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

Re-Examination Fee

A student who is eligible for re-examinations must secure a bill in the amount of \$5.00 from the Registrar's Office and make payment to the Cashier for each subject in which he is to be examined, and he must present the receipt to the faculty member giving the examination before he will be permitted to take the examination.

Student Activities Fund

This fund supports all student activities and is budgeted by the Student Council in accordance with its own by-laws. All expenditures from this fund must be approved by the Student Council. The fund supports the student recreational and social program, representation at national conventions for certain student organizations, the cost of membership in the National Internship Association as well as other activities. A portion of the fund is allocated to the yearbook and provides each medical student with a copy of this publication. On registration all students are given a copy of *The Student Handbook* containing The Honor Code and The By-Laws of the Honor Council together with the By-Laws of the Student Council and the Professional School Student Senate.

Withdrawals and Refunds

Students desiring to leave the School of Medicine at any time during the academic year are required to file with the Dean a letter of resignation. The student must satisfy the authorities that he has no outstanding obligations to the school and must return his Student Identity Card and Matriculation Card.

If these procedures are not completed, the student will not be entitled to honorable dismissal nor to refund of fees.

Students under 21 years of age must supplement the procedures previously described with the written consent of their parents or guardians.

ACADEMIC STANDING ON WITHDRAWAL

Students who voluntarily withdraw during an academic semester will be given no credit.

Students are not permitted to resort to withdrawal in order to preclude current or impending failures. Their standing on withdrawal will be recorded in the Registrar's Office.

Students who withdraw from the School of Medicine, and later desire readmission, must apply to the Committee on Admissions, unless other arrangements have been consumated with the Dean's written consent.

REFUNDS ON WITHDRAWAL

Students who are eligible to honorable dismissal will receive a refund of current charges, after the matriculation fee has been deducted, according to the following schedule:

PERIODS ELAPSED AFTER INSTRUCTION BEGINS

	PERCENTAGE
	REFUNDABLE
Two weeks or less	80%
Between two and three weeks	60%
Between three and four weeks	40%
Between four and five weeks	20%
After five weeks	0

LEAVE OF ABSENCE

Students who are in good standing may be granted one year's leave of absence on request to the Dean. Longer leaves can be arranged only under special circumstances except those students in the combined M.D.-Ph.D. program.

Required Equipment

At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments similar to the one on display in the bookstore. In addition, they must provide themselves with microscopes equipped with a mechanical stage and a substage lamp. Microscopes must meet the standards described below.

A standard monocular or binocular microscope made by Bausch & Lomb, Leitz, Zeiss, Reichert, or American Optical Company fitted with the following attachments, meets the requirements:

16 mm., 10x, 0.25 N.A.—4.9 mm. working distance.

4 mm., 43x, 0.65 N.A.—0.6 mm. working distance.

1.8 mm., 97x, oil immersion, 1.25 N.A.—0.13 mm. working distance. Oculars: 10x and 5x. Huygenian eyepieces.

A scanning objective is optional, but often proves to be of great value.

The microscope should also be equipped with a wide aperture stage with detachable ungraduated mechanical stage, a substage condenser, variable focusing type 1.25 N.A. with iris diaphragm (a rack and pinion focusing device is preferred), and a mirror which is plane on one side, and concave on the other. A carrying case is recommended.

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some older instruments are in poor optical or mechanical condition, and in addition to which some were equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage. All microscopes (new and used) are subject to inspection and approval by Dr. Theodore F. Leveque, 208 Bressler Research Building, and Dr. Andrew G. Smith, 326 Howard Hall. Such approval must be obtained, at the latest, two days before school opens.

Prior to beginning the second semester of the first year, each student should obtain a stethoscope, sphygmomanometer, and ophthalmoscope-otoscope. The Department of Physiology and the Division of Physical Diagnosis offers the following recommendations:

INSTRUMENT	RECOMMENDED TYPE	COMMENT
Stethoscope	Reiger-Bowles or Sprague-Bowles	Purchase thick-walled rubber tubing. The wall thickness and internal diameter should be ½ inch each. Consult with Faculty Member before purchasing a more expensive stethoscope.
Sphygmomanometer	Tycos-aneroid	Other types are also satisfactory but this has proved itself for all around reliability and durability.
Ophthalmoscope- otoscope	Welch-Allyn	With closed No. 201 (diagnostic) otoscope head and No. 106 May ophthalmoscope head (not deluxe) Medium handle No. 705.

In addition to the dissecting kit each student will require one or two $5\frac{1}{2}$ inch curved Kelley clamps for use in the Physiology Laboratory.

The following equipment, which is frequently sold in a packaged kit with the above instruments, will be needed for second year work in Physical Diagnosis.

Tuning fork	250 cycles per second	The large alumnium alloy type is preferred to the small stainless steel variety.
Reflex hammer	any simple type	Avoid specialized instruments with

Students in the second year class are also expected to provide themselves with short white lapel coats. Three button, 8 ounce sanforized duck coats are satisfactory.

Prizes, Scholarships, Fellowships

and Loan Funds

If an applicant is awarded a scholarship it is understood that during its tenure he will accept no appointment in a hospital unless it has an approved graduate educational program.

Prizes

THE FACULTY PRIZE

The faculty will award the Faculty Gold Medal and Certificate and five Certificates of Honor to the six highest ranking candidates for graduation who, during the four academic years, have exhibited outstanding qualifications for the practice of medicine.

THE BALDER SCHOLARSHIP AWARD

Each year a prize of \$500 will be awarded for outstanding academic achievement to a graduating senior.

THE PRIZE IN INTERNAL MEDICINE

Each year a prize of \$600 will be awarded through the generosity of an anonymous donor to a graduating senior for excellence in internal medicine.

THE DR. A. BRADLEY GAITHER MEMORIAL PRIZE

A prize of \$25.00 is given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, to the student in the fourth year class doing the best work in genito-urinary surgery.

THE DR. LEONARD M. HUMMEL MEMORIAL AWARD

A gold medal and certificate of proficiency will be awarded annually as a memorial to the late Dr. Leonard H. Hummel, to the graduate selected by the Executive Committee of the faculty who has manifested oustanding qualifications in internal medicine.

THE DR. HARRY M. ROBINSON, SR., PRIZE

A prize of \$25.00 is given each year in honor of Dr. Harry M. Robinson, Sr., *Professor Emeritus of Dermatology*, to the member of the fourth year class selected by the faculty who has done outstanding work in dermatology.

THE DR. WAYNE W. BABCOCK PRIZE

Each year a prize of \$50 will be awarded to a graduating senior for outstanding work in surgery as a memorial to Dr. WAYNE W. BABCOCK.

THE EDUARD UHLENHUTH AWARD

This award consists of a specially selected skull given each year to the member of the sophomore class who has done the best work in first year anatomy as well as in clinical anatomy. The skull is on a base with a silver plaque giving the name of the award.

Scholarships

A number of scholarships are available to members of the three upper classes with stipends ranging from \$100 to \$1000 a year with the average about \$250. Specific information on any of these is available on inquiry to Room 102, Davidge Hall, All scholarships are awarded for one academic year and will be renewed only on application. Applications may be obtained in Room 102, Davidge Hall, and should be returned before the end of the school year. They will be acted upon by the Faculty Committee on Scholarships and Loans shortly thereafter and the applicants notified of the decision as promptly as possible. Awards are made on a competitive basis and academic proficiency is the primary consideration. Students who do not qualify for scholarships may apply for a student loan.

Warfield Freshman Merit Scholarships

Scholarships with a stipend of \$650 are available to members of the first year class who are residents of Maryland and who have demonstrated outstanding potentiality for the study of medicine. Selection will be based on the applicant's college record, MCAT scores, and any other criteria available to the Committee, including their impression of the applicant at the time he was interviewed in connection with his application for admission to Medical School. The Committee reserves the right to withhold Scholarship awards if, in their opinion, there are no qualified applicants in the particular year under consideration. Individuals meeting the residency requirements may apply by writing to the Committee on Admissions after they receive an offer of a place in the incoming class, requesting that their name be given consideration. These scholarships are available to first year students only, and therefore are not renewable. Recipients may apply in later years for Medical School Scholarships open to upper classmen.

Avalon Scholarship

An Avalon Scholarship which will pay full tuition will be awarded to the member of the incoming freshman class who shows the greatest promise for a successful career in medicine. All accepted students are eligible to apply whether resident or non-resident. At the end of each academic year the recipient's record will be reviewed by the Committee on Scholarships and the scholarship extended for another year if the record warrants. Any recipient who does not stand at least in the upper third of the class will not be considered eligible for renewal.

If an applicant is awarded an Avalon Scholarship, it is understood that during its tenure he will accept no outside remunerative employment during the school year.

Dr. Michael Vinceguerra Scholarship

The estate of Dr. Michael Vinceguerra has established a scholarship fund. The number of scholarships and stipend of each will be determined by the Faculty Committee on Scholarships and Loans.

The McCormick Scholarship

Through the generosity of the McCormick Company, a scholarship, providing a stipend of \$1200 per year, is available to a student of the first or second year of Medical School. These scholarships will be awarded by the Committee on Scholarships and Loans, taking into consideration the need of the applicant and his scholarly attainments.

Traits of character, motivation, and potentiality as a physician will be considered by the Committee in making an award. All McCormick scholars must agree to accept no outside employment of any kind during its tenure. The scholarship is renewable at the discretion of the Committee providing the holder stands in the upper third of his class at the time of application.

The Dr. John B. Weaver Fellowships

The will of Dr. John B. Weaver, who died in 1929, authorized The Trustees of the Endowment Fund of the University of Maryland to establish fellowships in his name. Two such fellowships, each in the amount of \$1500, will be awarded annually to applicants who as physicians are full time fellows in research or teaching in the University of Maryland School of Medicine.

Summer Research Fellowships

A number of summer research fellowships are available upon application to the Committee on Scholarships and Loans.

Loan Funds

A number of loan funds are available to students who are in financial need and application may be made at any time, although most applications are made and considered shortly before the beginning of each semester. Except in unusual circumstances, loans from Medical School Funds are limited to \$400 a year. Loans are awarded on the basis of need and therefore a budget must be submitted with each application,

along with the other supporting data. Most loans are repayable with interest at 2% in partial installments of 20% each, beginning two years after graduation. Interest with principal of the loan as repaid will be used as a rotating loan fund. Application forms for all loans are available in Room 102, Davidge Hall and should be presented to Committee on Scholarships and Loans.

Health Professions Student Loan Program

Financial assistance is available to all students from the Health Professions Student Loan Program. Preference, however, will be given to incoming freshman. Borrowings are made to \$2000 a year and repayable over a ten year period, beginning three years after graduation. No interest is charged on the loans until the beginning of the repayable period, when interest will be charged at the current federal rate which is usually between 3 and 4%. Application forms will be sent on request or may be obtained in person from Room 102, Davidge Hall, and should be filed before June 15 preceding the school year.

AMERICAN MEDICAL ASSOCIATION LOANS

The American Medical Association will guarantee loans up to \$1500 per year to medical students with interest at 1% above the Chicago prime rate. Loans mature on first day of fifth month after completing training including internship and residency. There will be additional 1% interest charged on unpaid balance after maturity. Application forms and further information are available in Room 102, Davidge Hall.

STUDENT COUNCIL EMERGENCY LOAN FUND

The Student Council of the Medical School has established an emergency loan fund for all medical students. When funds are available loans are without interest, are limited to \$400, and must be repaid in 120 days.

General Information

Student Organizations

STUDENT ACTIVITIES COMMITTEE

This committee serves to coordinate and integrate the activities of all student groups and to act as liaison between the student body and the faculty. Student members are: President of the Student Council, Class Presidents, Chairman of the Honor Council, President of the Student American Medical Association, President of the Interfraternity Council, President of Alpha Omega Alpha, President of the Woman's Auxiliary to Student American Medical Association, Editor of the Yearbook, Editor of the S A M A Newsletter, Chairman of the Orientation Committee. The Associate Dean for Student Affairs serves as Chairman and faculty members are appointed by the Dean.

STUDENT COUNCIL

Each year the student body elects the Student Council which formulates and directs policies and activities of the student body and makes appropriate recommendations to the proper authorities. It is responsible for disbursement of the Student Activities Fund and arranges the social program for the year.

HONOR COUNCIL

The Honor Council is responsible for interpretation and execution of the Honor Code. Acceptance of the provisions and obligations of this code is required of all students entering the medical school.

PROFESSIONAL SCHOOL SENATE

The Professional Schools on the Baltimore Campus, including the Schools of Medicine, Law, Dentistry, Nursing, and Pharmacology formed a Professional School Senate in 1956, a representative body for the purpose of considering problems concerning these schools and presenting their recommendations to the proper University authorities. The Professional School Senate operates under its own By-Laws.

STUDENT AMERICAN MEDICAL ASSOCIATION

The Student American Medical Association has a Chapter at Maryland and all medical students are eligible to join. This organization is designed to prepare the future physician for full participation in organized medicine. The SAMA Newsletter is a monthly publication which covers medical school news and the latest developments in areas of vital concern to medical students.

WOMAN'S AUXILIARY, STUDENT AMERICAN MEDICAL ASSOCIATION

It was organized to help wives of medical students to prepare themselves to fulfill future responsibilities as wives of practicing physicians. It has promoted closer association among the wives and the Auxiliary actively participates in many functions for the betterment of the medical school.

STUDENT COUNCIL INTRAMURAL ATHLETIC PROGRAM

Each year the Student Council sponsors an intramural athletic program which is designed to provide for the student a physical outlet from the stresses of constant study. The program consists of inter-class competition in tag football, basketball, softball, and tennis.

THE INTERFRATERNITY COUNCIL

Its purpose is to further the interests and improve the coordination and cooperation of the member groups. Each fraternity is represented by its president and social chairman. One of these representatives is chosen President for the school year on a rotating basis.

The Interfraternity Council organizes the Freshman Orientation Program, operates a used book and microscope store, and sponsors a yearly lectureship. The Interfraternity Council is represented on the Student Activities Committee.

THE YEARBOOK

This is the annual joint publication of the Schools of Medicine and Nursing. The yearbook, *Terra Mariae Medicus*, covers all the facets of student activities and is compiled by the students. As *Bones*, *Molars and Briefs*, the yearbook provides a continuous record of graduating classes as far back as 1896. It is the outstanding record of student life. The cost of the yearbook is included in the Student Activities Fee and all medical students are entitled to receive a copy without further charge.

Medical Historical Society

This organization is open to all intersted medical students, house staff, and faculty. Meetings are held throughout the year in which members or guest lecturers present papers in selected areas of medical history.



A common meeting place for students is the new Baltimore Union Building at 621 West Lombard Street. The new six story building, dedicated April 21, 1961, cost \$1.5 million. Future plans call for doubling its size.

Alpha Omega Alpha—National Medical Society

The Beta Chapter of Maryland was established at the University of Maryland in 1949. Medical students possessing outstanding qualities of moral integrity, scholarship, and leadership are elected to membership in their third or fourth years. The society sponsors an annual lectureship and forum for presentation of medical student research.

Student Health Service

JAMES R. KARNS, M.D. Director, Student Health Service
The Medical School has made provision for the systemic care of
undergraduate medical students according to the following plan:

PRELIMINARY EXAMINATION

All new students will be examined during the first week of the semester. Notice of the date, time, and place of the examination will be announced to the classes and posted on the bulletin board. The passing of this physical examination is necessary before final acceptance of any student.

MEDICAL ATTENTION

Students in need of medical attention will be seen by the Director, Dr. James R. Karns, in his office on the second floor, Outpatient Department at 12 p.m. daily, except Saturday and Sunday. In case of necessity, students will be seen at their homes.

HOSPITALIZATION

All students are required to have Blue Cross hospitalization insurance, or its equivalent.

PHYSICAL DEFECTS

Prospective students are advised to have any known physical defects corrected before entering school in order to prevent loss of time which later correction might incur.

LIMITATIONS

It is not the function of this service to treat chronic conditions contracted by the students before admission, nor to extend treatment of acute conditions arising in the period between academic years, unless the school physician recommends this service.

Housing

The Baltimore Union Building for students of the Professional Schools is located adjacent to the Professional Schools at 621 West Lombard Street. Accommodations for 195 men are provided in a five-story, semi-air conditioned building which also contains a cafe-

teria, fountain lounge, meeting rooms, laundry facilities, game room, bookstore, tobacco shop, and barber shop; there are lounges on each floor. Double rooms are available. The rental agreement is made for rooms only; meals are served cafeteria style on a cash basis. The contract for accommodations covers the academic year. The rates are:

\$160.00 per semester per double room. 80.00 per eight weeks summer session per double room.

The rate shown above is per person and includes the following: Room furnishings, bed and cover, mattress, chest of drawers, closet, bookshelves, desk, medicine cabinet, desk chair, and desk lamp. Maid service will include cleaning of room twice per week and replacement of change of linen once each week. Telephone service is available through the Chesapeake & Potomac Telephone Company. Cost of the telephone is not included in the room rate. Information can be obtained from the Director's Office. Mail service is also provided. Towels and linens must be rented through the designated Commercial Rental Service. Residents may either provide their own pillow and blankets or rent them from the linen service. A small amount of luggage space is available. Storage of anything other than luggage will not be available.

HOW TO APPLY FOR A ROOM ASSIGNMENT

Write: DIRECTOR'S OFFICE The Baltimore Union Building 621 West Lombard Street

Baltimore, Maryland 21201

There are no University housing facilities in Baltimore available for women.

Diplomas

Members of the Senior Class must fill out an "Application for Diploma Form." Please use a ball-point pen in order that the carbon copies may be legible.

Commencement

All graduating seniors are required to attend the Pre-commencement and Commencement ceremonies unless excused in writing by the Dean.

Buildings and Facilities

Davidge Hall

This hall, at 522 West Lombard Street, is named after the first dean, Dr. John Beale Davidge, and was the first building of the medical school to be erected. It was completed in 1812 and is a replica of the Pantheon in Rome. It is the oldest structure in this country from which the degree of Doctor of Medicine has been granted annually since its erection. It is located at the N.E. corner of Lombard and Greene Streets and houses the offices of the Dean, and his staff, the Committee on Admissions, the Postgraduate Committee, Medical Alumni Office, in addition to Chemical and Anatomical Halls.

Administration Building

520 West Lombard Street contains the Baltimore offices of the Registrar and two lecture halls.

Bressler Research Laboratory

The Frank C. Bressler Research Laboratory at 29 S. Greene Street, a memorial to a generous alumnus, was completed in 1940.

It houses the Department of Anatomy in addition to the research facilities of the departments of Medicine and Surgery, animal quarters, the Bressler Memorial Room, and the Baltimore Offices of the Board of Regents and the President of the University.

Howard Hall

660 West Redwood Street houses the Departments of Biochemistry, Biophysics, Microbiology, Pathology, Pharmacology, and Physiology, in addition to the Central Animal Quarters of the Medical School.

Medical Technology Building

31 South Greene Street houses some of the offices and laboratories



Davidge Hall





of the departments of Pathology as well as investigative laboratories of the Clinical Departments.

University Hospital

University Hospital is part of the University of Maryland. It is one of the oldest institutions for the care of the sick in the State of Maryland. It was opened in September 1823, under the name of the Baltimore Infirmary and at that time consisted of only four wards, one of which was reserved for patients with diseases of the eye.

In 1933-1934 the present University Hospital was erected with a capacity of 435 beds and 65 bassinets. In 1952-1953 a modern Psychiatric Institute Building was erected and a junctional wing was added to the general hospital. New additions have increased the hospital bed capacity to 667 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, psychiatry, and the various medical and surgical specialties. Three hundred and seventy are for ward patients.

The hospital buildings are situated opposite the Medical School buildings. The students, therefore, are in close proximity to the clinical facilities of the University Hospital. The hospital as planned, makes a particularly attractive teaching unit and is the major clinical teaching facility of the Medical School.

EMERGENCY SERVICE

The Emergency Service of the hospital receives and treats a large number of emergency cases because of its proximity to the largest manufacturing and shipping districts of the city. During the past fiscal year a total of 37,977 patients were treated in the Emergency Room.

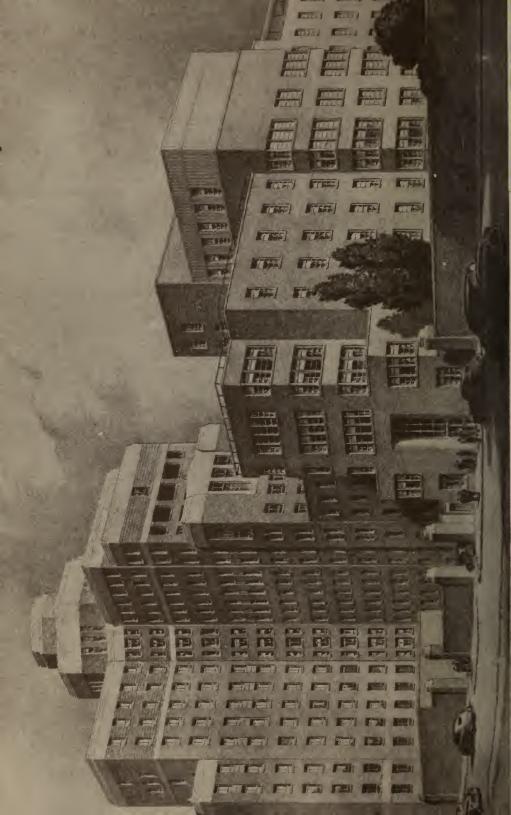
OUT PATIENT DEPARTMENT

The Out Patient Department is in the old University Hospital. It has been remodeled to provide space and facilities for more than fifty clinics, the departments of X-ray, a pharmacy, laboratory, and other ancillary services. Admission policies are predicated upon the teaching requirements of the School of Medicine and the ward services of the University Hospital.

Visits to the various clinics of the Out Patient Department during the last fiscal year totaled 149,286.

Health Sciences Library

The Schools of Medicine, Dentistry, Pharmacy, Nursing, and Social Work are served by the Health Sciences Library in a modern, four story library building completed in 1960. The oldest part of the library collection dates back to 1813 when the University of Maryland purchased the books of Dr. John Crawford to form a medical library. The present library contains about 100,000 bound volumes and regularly receives over 2,200 scientific periodicals.



Howard Hall

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The library of the Medical and Chirurgical Faculty of Maryland and the Welch Medical Library are open to students of the School of Medicine without charge. Other libraries of Baltimore are the Peabody Library and the Enoch Pratt Free Library.

PERSONNEL

HOWARD ROVELSTAD, A.B., M.A., B.S.L.S.—Director of Libraries and Professor of Library Science

*IDA MARIAN ROBINSON, A.B., B.S.L.S.—Librarian Emeritus

*HILDA E. MOORE, A.B., A.B.L.S.—Librarian and Associate Professor of Library Science

SARAH L. ATKINS—Cataloging Assistant

*EDITH M. COYLE, A.B., A.B.L.S., M.A.—Head, Serials Department *ELIZABETH A. FORNEY, A.B., M.S.L.S.—Reference Librarian

WILLARD T. FRAMPTON—Library Clerk

NORMA E. HANDY—Acquisitions Assistant

RUTH E. HANNA, A.B., M.S.L.S.—Assistant Acquisitions Librarian

LORRAINE S. HLAVIN—Serials Assistant

*SIMONE C. HURST—Head, Circulation Department MARGARET M. JONES, A.B., M.S.L.S.—Cataloger CHOONG HAN KIM, A.B., M.A.L.S., PH.D.—Cataloger

HANS-GUENTHER R. LISTFELDT, B.S., M.S.L.S.—Assistant Serials Librarian

*BEATRICE MARRIOTT, B.A.—Reference Librarian

*ELEANOR M. MITTEN, B.S., B.S.L.S.—Head, Book Acquisitions and Cataloging

ELIZABETH PALMER—Secretary to the Librarian LORENE S. PITA, A.B., M.A.L.S.—Reference Librarian

R. KAE SARUBIN—Circulation Assistant

ELWOOD STERLING—Library Clerk

MARTHA L. SULLIVAN—Cataloging Assistant

LENORE A. VARUOLA—Serials Assistant

^{*} Certified Medical Librarian.

Affiliated Institutions

Mercy Hospital

Mercy Hospital traces its history to the foundation of the Washington School of Medicine in 1824. In 1872 some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert Streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874 the Sisters of Mercy, upon the invitation of Washington School of Medicine, assumed responsibility for the Nursing Services of the hospital. In 1876, Washington University merged with the College of Physicians and Surgeons.

In 1888 the Sisters of Mercy, with the assistance of the Faculty of the College of Physicians and Surgeons, began construction of a new hospital adjacent to the earlier buildings. In 1909, the name of the institution was changed to "Mercy Hospital."

Many additions have been made to the physical plant over the years. The present twenty-one story, modern hospital building opened in 1963. A new gastroenterological research laboratory was completed in 1965. A center for gastrointestinal endoscopy has also been established.

The hospital is very active in the teaching program of the medical school. Faculty members serve as fulltime heads of medicine, surgery, and pediatrics. Medical students rotate through the Mercy Hospital clinical services during the second, third, and fourth years.

During the year ended December 31, 1964, there were 12,802 general admissions, 25,906 dispensary visits, 2,271 obstetrical deliveries, and 19,876 emergency visits in the Accident Department.

The bed capacity is 339 plus 48 bassinets. All hospital beds are



Mercy Hospital

available for teaching purposes, 77 of them specifically as service beds. A School of Nursing, a School of Medical Technology, and a School of X-Ray Technology are conducted in conjunction with the hospital.

The James Lawrence Kernan Hospital and Industrial School of Maryland for Crippled Children

This institution is situated on an estate of 75 acres at Dickeyville. The site is within the northwestern city limits and of easy access to the city proper.

Its facilities are used to teach pediatric orthopedics to medical students and house officers.

A hospital unit, complete in every respect, offers all modern facilities for the care of an orthopedic condition in children.

The hospital is equipped with 114 beds—endowed, and city and state supported. The orthopedic dispensary at the University Hospital is maintained in closest affiliation and cares for the cases discharged from the Kernan Hospital. The Physical Therapy Department is very well equipped with modern apparatus and trained personnel. Occupational therapy has been fully established and developed under trained technicians.

Baltimore City Hospitals

This is the only municipal hospital and has a bed capacity of 2,063. The departments of the hospital are: Anesthesiology, Chronic and Community Medicine, Dentistry, Medicine, Obstetrics and Gynecology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Psychiatry, Radiology, Surgery, and Tuberculosis.

The acute hospital has 425 beds and is devoted to the usual medical activities. The chronic hospitals, where physical rehabilitation is emphasized on all patients, are devoted to chronic and degenerative diseases, as well as tuberculosis.

There is a strong affiliation between the School of Medicine and the Departments of Obstetrics and Gynecology, Anesthesiology, Radiology, and Medicine. The heads of these departments as well as the clinical instructors are members of the University of Maryland School of Medicine faculty. They participate not only in teaching medical students, but are active in the planned programs for house staff education. The practical teaching of Obstetrics is carried out in this institution, while partial instruction in several areas of Medicine and Anesthesiology are under the directorship of the respective clinical department heads.

Maryland General Hospital

The Maryland General Hospital began humbly about 1883 at a location on Linden Avenue, north of Madison Street, with a capacity of 50 beds. Five years later, a college building (The Baltimore Medical College), was erected on Madison Street and a maternity service known as The Maryland-Lying-In Hospital opened on Linden Avenue contiguous to the main building. Three years later the Dental Building followed.

Early in 1911 came a radical change. The Baltimore Medical College, including its College of Dentistry, was consolidated with the University of Maryland. This left portions of two buildings tenantless and functionless. Then came three Methodist groups, federating their purses and courage in purchasing and operating a hospital.

Two campaigns for funds, two years apart, met a heartening response from people of all faiths. Debts were extinguished and mortgage bonds retired. Property improvements began on a large scale. Both buildings were soundly converted to hospital uses.

In 1921 a successful campaign was completed to construct a modern nurses' home.

In July, 1954, a contract was entered into for the creation of a seven story building—the first phase of the building program—and was dedicated in December, 1956. The new building made possible the demolition of the old buildings. The second phase of the program was completed in November, 1962.

The present bed complement is 385 plus 40 bassinets. In addition to increasing the bed capacity, construction of modern laboratories, recovery room, surgery, and X-ray departments, the new departments of an intensive care unit, a radio-isotope laboratory, and cardio-pulmonary function laboratories were incorporated into this facility.

For the year 1964 there were 13,930 admissions, 7,475 surgical procedures, and 2,261 obstetrical deliveries.

An early merger is contemplated with the Baltimore Eye, Ear and Throat Hospital, with the construction of a modern seven story building to accommodate these patients. The bed complement, upon completion, will be 457.

Eve Research Foundation of Bethesda

The Eye Research Foundation is affiliated with the Department of Ophthalmology, and is located at 8710 Old Georgetown Road in Bethesda. Research and clinical facilities are used for research and training programs.

Historical Sketch

The School of Medicine of the University of Maryland, the fifth medical school to be founded in the United States, filled a great need for such an institution in the Baltimore area. On December 18, 1807, the General Assembly of the State of Maryland passed "An Act for Founding a Medical College in the City or Precincts of Baltimore for the Instruction of Students in the Different Branches of Medicine." The philosophy of the founding fathers and the principles upon which the school was established have not changed. This is aptly expressed in the opening paragraphs of the Founding Act: "WHEREAS . . . it appears to the General Assembly that many benefits would accrue, not only to the State of Maryland but to many other parts of the United States, from the establishment of a seminary for the promotion of medical knowledge in the City of Baltimore, therefore, Be It Enacted . . . That a College . . . by the name of The College of Medicine of Maryland, be established . . . upon the following fundamental principles. . . . The said College shall be founded and maintained forever upon a most liberal plan, for the benefit of students of every country and every religious denomination, who shall be freely admitted to equal privileges and advantages of education, and to all the honors of the College, according to their merit, without requiring or enforcing any religious or civil tests."

The direction of the College of Medicine was vested in a Board known as "The Regents of the College" comprising the Board of Medical Examiners, the President, and Professors of the College.

Dr. John Beale Davidge was selected as the first dean of the school. Under his farsighted leadership the original faculty formulated a new concept of medical education: "The science of medicine could not be successfully taught under the usual organization of medical schools; that without the aids of physiology and pathology, either associated with anatomy or as a separate chair of institutes, the philosophy of the body in sickness or in health could not be understood."

The first session of the College was not complete and lectures were delivered in the homes of Dr. Davidge, other members of the faculty, and at the Almshouse. From the beginning the School was fortunate in having patients at the Almshouse for use in bedside teaching.

The first recorded public graduation was in 1810 with five graduates listed, three from Maryland and two from Virginia.

At the end of 1807 there was, in Baltimore, a medical college with officers and faculty but no buildings or money. A lottery was authorized in the amount of \$10,000, which was subsequently increased to \$40,000. The faculty contributed what it could and interested citizens helped to raise funds with which to begin the school and provide for its maintenance.

The location selected for the College of Medicine was the northeast corner of Lombard and Greene Streets on property owned by Col. John Eager Howard of Revolutionary War fame. Mr. R. Cary Long, an eminent architect, drew plans for the beautiful replica of the Pantheon which stands today and houses the two old amphitheatres, the offices of the Dean, the Alumni Association, Postgraduate Committee, and other administrative offices. This building was first occupied late in the year of 1812. It is the oldest building in this country from which the degree of Doctor of Medicine has been granted annually since its erection. In this building one of the first medical school libraries in the United States was founded.

The Faculty and Regents endeavored constantly to improve the curriculum and teaching facilities. New faculty members were secured and new methods were introduced in the school. Dr. John Crawford, one of the new faculty members, vaccinated Baltimoreans against smallpox during 1800, while Dr. Waterhouse was doing the same for citizens of Boston. As early as 1810 he presented evidence that tuberculosis was contagious. His personal library became the nucleus of the present Medical School Library.

In 1812 the General Assembly authorized founding of the additional Schools of Law, Divinity, and Arts and Sciences. The University of Maryland School of Medicine was unique in the history of education, since the medical school preceded the undergraduate and other professional schools.

The Baltimore Infirmary, the forerunner of the University Hospital, was built in 1823. The School was one of the first to have its own hospital for clinical instruction, and it was here that intramural residency for senior students was first established.

There were many "firsts" through the years. The study of human anatomy was recognized as basic for the acquisition of medical knowledge, but dissection was limited by the difficulty in obtaining bodies. The trustees recommended compulsory dissection as early as 1833, but the faculty did not enforce the recommendation until 1848, the first medical school in the country with such a requirement. Finally, enactment of the Anatomy Law provided unclaimed bodies to the medical schools for dissection (1882). At the College of Medicine of Maryland instruction was given in Dentistry (1837) and in the techniques of ausculation and percussion (1841) for the first time in America. In 1844 Dr. David Stewart, the first professor of pharmacy in the United States, initiated his lectures at the School, and compulsory courses in Experimental Physiology and Microscopy were introduced in 1854. The first independent chairs for teaching Diseases of Women and Children (1867) and Diseases of the Eye and Ear (1873) were established. Systematic clinical instruction in Nervous Diseases was instituted in 1869.

The Faculty and Regents recognized the need for medical education to

include areas other than the sciences. In 1891 a rule was adopted which required each student to complete successfully a preliminary examination in English before being admitted.

At the time of the charter the course of instruction was only four months. In 1848 it was increased to four and a half months and attendance at two sessions was required. In 1891 the period of instruction was increased to three years and in 1896 all Doctor of Medicine candidates were required to complete a four year course of instruction.

Graduate programs were offered as early as 1860 and a special ten weeks summer course was given in 1870. These were the initial Postgraduate courses which have continued to the current era.

Honorary degrees have been conferred upon outstanding persons on rare occasions. The honorary M.D. degree conferred upon Dr. Ephraim McDowell by the University of Maryland School of Medicine in 1825 was his only degree. The Marquis de Lafayette was awarded the honorary degree of LL.D. during his visit to America in 1824.

The University of Maryland School of Medicine enjoys a rich heritage bequeathed by two other medical schools and their affiliated hospitals. Mergers with the Baltimore Medical College in 1913 and the College of Physicians and Surgeons in 1915 provided the University of Maryland School of Medicine with greatly expanded faculty and clinical facilities.

The state University was established in 1920 when the professional schools in Baltimore merged with the Maryland State College of Agriculture at College Park, Maryland. The state of Maryland assumed the financial obligation of all of the schools.

Throughout the many years since the Medical School's founding the prime emphasis has been placed on fitting men and women for the practice of medicine. Significant research contributions were made by many graduates although systematic programs of experimentation received greater emphasis in the later years, especially since the erection of the Bressler Research Laboratory in 1939-1940.

Women first entered the Medical School in 1921. There were six women in the 1922 class, two of whom completed the four year course of study. The School was integrated racially almost from the beginning and students of most races have completed the course of study and graduated.

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	Term							
Members Alternates	Expires							
Anatomy	Dapires							
DR THEODORE & VIVIANIA								
DR. THEODORE R. LEVEQUE DR. JOSEPH WELLS DR. VERNON E. KRAHL DR. CHARLES G	1966							
DR. VERNON E. KRAHL DR. CHARLES G. CRISPENS, JR.	1967							
Child End, JA.	1907							
Anesthesiology								
DR. NORMAN B. HOLLINGSWORTH DR. MARTIN I. GOLD	1965							
Biological Chemistry								
DR. ARTHUR J. EMERY, JR. VACANT	1065							
DR. ARTHUR J. EMERY, JR. VACANT	1965							
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Medicine								
DR. EDWARD COTTER DR. JOHN WISWELL	1965							
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DR. EDWARD ROSENZWEIG DR. OLLIE R. EYLAR, JR.	1967							
DR. OEEE R. LIEAR, JR.	1707							
Neurology								
VACANT								
Obstetrics-Gynecology								
	1065							
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DR. I. A. SIEGEL	1700							

Members	Alternates	Term Expires					
Ophthalmology							
DR. SAMUEL L. FOX	DR. OTTO P. VAN BIJSTERVELD	1967					
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D 14 . !							
Preventive Medicine							
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D. It.	HENDERSON	1900					
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Faculty 1965-1966-1967

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Thomas A. Burns

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Graduate Students Majoring in Anatomy

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- Walter Levy, Assistant Professor; M.D., University of Maryland, 1929.
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Research Assistants and Fellows

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ALEXANDER E. KARU, Research Assistant
SISTER MARY BLANCHE, Fellow
ANNE M. MURPHY, Research Assistant
LAWRENCE S. ROSEN, Fellow
KADHIM N. SALMAN, Postdoctoral Fellow

International Medicine

- FRED R. McCrumb, Jr., Professor of International Medicine and Head of the Department; M.D., University of Maryland, 1948.
- МОНАММЕD A. AZIZ, Research Associate in International Medicine; М.В.-В.S., Dacca University, 1954; Ph.D., University of Minnesota, 1963.
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- CHRISTIAN R. KLIMT, Associate Professor of International Medicine; M.D., University of Vienna, 1944; M.P.H., Johns Hopkins School of Hygiene and Public Health, 1952; Dr. P.H., 1959.
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- CURTIS L. MEINERT, Research Associate in International Medicine; B.A., University of Minnesota, 1956; M.S., 1959; Ph.D., 1964.
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- Lt. Col. Nur Ahmad, A.M.C., Professor of International Medicine; M.B.B.S., Punjab University, 1953; M.C., Path. (London), 1964.
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- RICHARD GRANT ROBERTSON, Research Associate in International Medicine; B.S., Brigham Young University, 1959; M.S., 1962.
- Col. Ross F. Swall, Research Associate in International Medicine; B.S., Oregon State College, 1945; M.A., Baylor University, 1958
- OSCAR CHARLES TACK, JR., Research Programmer in International Medicine; B.S., United States Naval Academy, 1957.
- DAVID BARTLETT THOMAS, Research Associate in International Medicine; B.S., University of Washington, 1959; M.D., 1963.
- BARBARA A. UNDERWOOD, Assistant Professor of International Medicine; B.A., University of California, 1956; M.S., Cornell University, 1958; Ph.D., Columbia University, 1962.
- PHILLIP DAVID WILSON, Research Associate in International Medicine; B.S., University of Colorado, 1956; M.S., University of Minnesota, 1963.

Medicine

- THEODORE E. WOODWARD, Professor of Medicine and Head of the Department; B.S., Franklin and Marshall College, 1934; M.D., University of Maryland, 1938; D.Sc., (Hon.), Western Maryland College, 1950; D.Sc., (Hon.), Franklin and Marshall College, 1954.
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- GEORGE N. AGAPITOS, Associate in Medicine; M.D., University of Athens (Greece), 1948.
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- Andres W. Anderson, Assistant in Medicine, D.D.S., University of Maryland, 1921; M.D., 1929.

- REUBIN ANDRES, Associate Professor of Medicine; M.D., Southwestern Medical College, 1944.
- ALBERT M. ANTLITZ, Instructor in Medicine; B.S., Georgetown University, 1951; M.D., 1955.
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- HERBERT C. BARNETT, Associate Professor of Medicine; B.S., Cornell University, 1939; M.S., University of Minnesota, 1946; M.P.H., University of Pittsburgh, 1953; Ph.D., 1954.
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- KARL FREDERICK MECH, Assistant Professor of Surgery; B.S., University of Maryland, 1932; M.D., 1935.
- THOMAS DICKSON MICHAEL, Assistant in Otolaryngology; M.D., Jefferson Medical College, 1949.
- MORITZ MICHAELIS, Assistant Professor of Surgery; Ph.D., University of Wurzburg, 1934.
- ELLIOTT MICHAELSON, Instructor in Thoracic Surgery; A.B., Johns Hopkins University, 1930; M.D., 1935.
- Lyle Jordan Millan, Associate in Urology; M.D., George Washington University, 1921.
- JOHN E. MILLER, Instructor in Surgery; B.A., Pennsylvania State University, 1938; M.D., Jefferson Medical College, 1942.
- Joseph M. Miller, Associate in Surgery; A.B., Columbia University, 1931; M.D., University of Minnesota, 1939.
- KIRK MOORE, Assistant in Surgery; A.B., Princeton University, 1941; M.D., Johns Hopkins University, 1944.

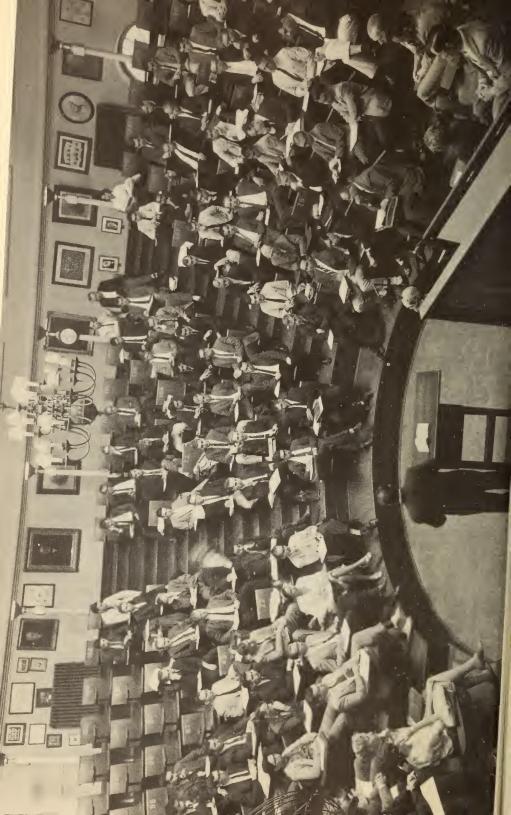
- JOHN DUER MOORES, Instructor in Surgery; B.S., Johns Hopkins University, 1931; M.D., University of Maryland, 1932.
- WILLIAM H. MOSBERG, JR., Assistant Professor of Neurological Surgery; B.S., University of Maryland, 1942; M.D., 1944.
- RALPH D. NATALE, Instructor in Otolaryngology; A.B., Johns Hopkins University, 1955; M.D., University of Maryland, 1959.
- JAMES WHARTON NELSON, Professor of Clinical Surgery; A.B, St. John's College, 1918; M.D., University of Maryland, 1925.
- Neil Novin, Instructor in Surgery; B.A., New York University, 1951; M.D., State University of New York, 1955.
- THOMAS R. O'ROURK, Professor of Otolaryngology; M.D., University of Maryland, 1921.
- Frank Joseph Otenasek, *Instructor in Neurological Surgery*; A.B., Loyola College, 1933; M.D., Johns Hopkins University, 1937.
- A. GIBSON PACKARD, Assistant in Orthopedic Surgery; B.A., Johns Hopkins University, 1950; M.D., University of Maryland, 1954.
- CLARENCE W. PEAKE, Associate Professor of Surgery; M.D., University of Maryland, 1927.
- Daniel James Pessagno, Professor of Clinical Surgery; B.A., Rock Hill College, 1916; M.D., University of Maryland, 1920.
- Patrick Carey Phelan, Jr., Associate in Surgery; B.A., Loyola College, 1935; M.D., University of Maryland, 1942.
- Ross Z. PIERPONT, Assistant in Surgery; B.S., University of Maryland, 1939; M.D., 1940.
- Frederick W. Plugge, IV, Instructor in Surgery; A.B., University of Pennsylvania, 1953; M.D., University of Maryland, 1957.
- HARRY PRIMROSE PORTER, Assistant in Otolaryngology; A.B., Johns Hopkins University, 1939; M.D., 1943.
- JAMES RICHARD POWDER, Instructor in Urology; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.

- JOHN M. REHBERGER, Assistant in Otolaryngology; B.S., Loyola College, 1940; M.D., New York Medical College, 1947.
- CHARLES A. REIFSCHNEIDER, Clinical Professor of Traumatic Surgery; M.D., University of Maryland, 1916.
- HERBERT E. REIFSCHNEIDER, Associate in Surgery; A.B., Johns Hopkins University, 1922; M.D., University of Maryland, 1927.
- WILLIAM BENJAMIN REVER, JR., Associate in Surgery; M.D., University of Maryland, 1950.
- BENJAMIN SUNDERLAND RICH, Associate Professor of Otolaryngology; B.A., Johns Hopkins University, 1923; M.D., University of Maryland, 1928.
- WILLIAM F. RIENHOFF, JR., Assistant Professor of Surgery; B.A., Cornell University, 1915; M.D., Johns Hopkins University, 1919.
- MARTIN ALBERT ROBBINS, Associate in Urology; A.B., Johns Hopkins University, 1939; M.D., University of Maryland, 1943.
- HARRY L. ROGERS, Clinical Professor of Orthopedic Surgery; M.D., University of Maryland, 1915.
- JOHN DAVID ROSIN, Associate in Surgery; B.S., Johns Hopkins University, 1938; M.D., University of Maryland, 1942; M.S., University of Minnesota, 1952.
- C. PARKE SCARBOROUGH, Clinical Associate Professor of Plastic Surgery; B.S., Pennsylvania State College, 1933; M.D., University of Maryland, 1937.
- JOHN F. SCHAEFER, Instructor in Surgery; Ph.G., University of Maryland, 1934; B.S., 1936; M.D., 1938.
- IRVING SCHERLIS, Assistant in Urology; A.B., Johns Hopkins University, 1940; M.D., University of Maryland, 1943.
- THEODORE ALLISON SCHWARTZ, Assistant Professor of Otolaryngology; Ph.G., University of Maryland, 1930; B.S., 1932; M.D., 1934.
- WILLIAM BOOTH SETTLE, Associate in Surgery; A.B., University of Pennsylvania, 1930; M.D., 1933.
- JOHN OLIVER SHARRETT, Instructor in Neurological Surgery; M.D., University of Maryland, 1952.

- E. RODERICK SHIPLEY, Associate in Surgery; A.B., Johns Hopkins University, 1938; M.D., University of Maryland, 1942.
- ARTHUR GEORGE SIWINSKI, Assistant Professor of Surgery; A. B., Johns Hopkins University, 1927; M.D., University of Maryland, 1931.
- JOHN CRAIG STAUFFER, Research Assistant Professor of Surgery; A.B., Princeton University, 1949; M.D., University of Maryland, 1953.
- EDWIN HARVEY STEWART, JR., Associate in Surgery; M.D., University of Maryland, 1943.
- FREDERICK LOUIS STICHEL, JR., Assistant in Otolaryngology; B.S., University of Maryland, 1934; M.D., 1944.
- WILLIAM JOSEPH SUPIK, Associate in Surgery; B.S., University of Maryland, 1940; M.D., 1940.
- JOHN J. TANSEY, Associate in Orthopedic Surgery; A.B., Brown University, 1942; M.D., University of Maryland, 1945.
- NORMAN TARR, Instructor in Surgery; B.S., Washington College, 1944; M.D., University of Maryland, 1948.
- RAYMOND K. THOMPSON, Associate Professor of Neurological Surgery; B.S., University of Maryland, 1937; M.D., 1941.
- MORRIS TISCHLER, Research Associate in Surgery; B.S., University of Maryland, 1950; M.H., 1952.
- T. JOSEPH TOUHEY, Assistant in Surgery; M.D., University of Maryland, 1923.
- W. Houston Toulson, M.D., Professor of Urology, Emeritus.
- I. RIDGEWAY TRIMBLE, Professor of Clinical Surgery; B.A., Princeton University, 1922; M.D., Johns Hopkins University, 1926.
- ALLEN FISKE VOCHELL, Professor of Orthopedic Surgery, Emeritus; A.B., Johns Hopkins University, 1915; M.D., 1919.
- WILLIAM WALLACE WALKER, Associate Professor of Surgery; B.S., University of West Virginia, 1921; M.D., University of Maryland, 1923.
- ARTHUR THOMAS WARD, JR., Associate in Otolaryngology; A.B., Johns Hopkins University, 1933; M.D., 1939.

- ISRAEL HOWARD WEINER, Instructor in Neurological Surgery; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.
- HAROLD R. WEISS, Instructor in Orthopedic Surgery; B.S., University of Maryland, 1952; M.D., 1954.
- EDWARD F. WENZLAFF, Assistant in Orthopedic Surgery; A.B., Columbia College, 1948; M.D., University of Buffalo, 1954.
- JOHN P. WHITE, III, Instructor in Surgery; M.D., University of Maryland, 1947.
- ALFRED K. WIEDMAN, Professor in Orthopedic Surgery; M.D., University of Heidelberg, 1956.
- MILTON J. WILDER, Assistant Professor of Orthopedic Surgery; B.S., University of Maryland, 1933; M.D., 1939.
- DAVID REID WILL, Instructor in Surgery; M.D., University of Maryland, 1943.
- WALTER D. WISE, M.D., Professor of Surgery, Emeritus.
- Austin H. Wood, Assistant in Urology, M.D., University of Maryland, 1914.
- JOHN M. WORKMAN, Assistant Professor for Research, Thoracic Surgery; B.S., Oxford University, 1944; B.M., B. Chem., University College Hospital, London, 1947.
- GEORGE HERSCHEL YEAGER, *Professor of Clinical Surgery*; B.S., University of West Virginia, 1927; M.D., University of Maryland, 1929.
- JOHN DAVID YOUNG, JR., Professor of Urology and Head, Division of Urological Surgery; B.A., Bridgewater College, 1938; M.D., University of Maryland, 1941.
- WAITMAN F. ZINN, M.D., Professor of Otolaryngology, Emeritus.

- Consultants, Fellows, Research Fellows, and Research Assistants
- JOHN A. BEECH, Research Associate in Thoracic Surgery.
- DONALD E. GREGG, Consultant in Thoracic Surgery.
- ILSE H. HAWTHORNE, Research Assistant in Thoracic Surgery.
- Bomi N. Irani, Research Fellow in Thoracic Surgery.
- WILLIAM H. KIRBY, JR., Research Associate in Thoracic Surgery.
- KENNETH M. KLATT, Research Fellow in Thoracic Surgery.
- MELVIN H. KNISELY, Consultant in Thoracic Surgery.
- SETSU KOMATSU, Research Fellow in Thoracic Surgery.
- DAVID N. KRAMER, Research Associate in Surgery.
- CESLOVAS MASAITIS, Research Associate in Thoracic Surgery.
- PAULO P. MENDONCA, Research Fellow in Urology.
- G. Allen Moulton, Research Assistant in Thoracic Surgery.
- ROBERT M. OLLODART, Research Associate in Thoracic Surgery.
- DORCAS H. PADGET, Research Associate in Neurosurgery.
- VINCENT E. SHEEHAN, Research Assistant in Thoracic Surgery.
- Manfred Strauch, Research Fellow in Thoracic Surgery.
- ANDREW DE KOROSSY SZABO, Research Assistant in Thoracic Surgery.
- GEORGE BENNETT THOMPSON, Research Assistant in Thoracic Surgery.



Organization of the Curriculum and Courses of Instruction

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► ANATOMY

Professors: FIGGE (HEAD OF DEPARTMENT), BRANTIGAN, KRAHL, AND LEVEQUE.

Associate Professors: MECH AND WALKER.

Assistant Professors: CRISPENS, POLLEY, RAMSEY, SETTLE, WADSWORTH, AND WELLS.

Instructors: ANILANE, ATKINS, CERINO, DONATI, EBBESSON, LINHARDT, MC-FADDEN, AND NOVIN.

Associates: BOWIE, PIERPONT, AND REIFSCHNEIDER.

Anat. 101. Gross Anatomy. (272)*

First year, first semester. This course gives the student an opportunity to develop a basic concept of the morphology of the human body. It is closely interwoven with the study of neuroanatomy, microanatomy, and embryology, and some time is devoted to roentgen anatomy. The entire human body is dissected.

Anat. 102. Microanatomy. (178)

First year, first semester. The course presents an integrated study of the histology and embryology of the human body. An attempt is made to correlate this with gross anatomy as well as other subjects in the medical curriculum. Special emphasis is placed on the dynamic and functional aspects of the subjects.

Anat. 103. Neuroanatomy. (116)

First year, first semester. The study of the detailed anatomy of the central nervous system is coordinated with structure and function of the entire nervous system. The dissection of the human brain and the examination of stained microscopic sections of various levels of the brain stem are required.

Anat. 104. Clinical Anatomy. (96) Elective

Second year, second semester. The course is designed to bridge the gap between basic anatomy and clinical or applied anatomy. The study of surface anatomy is correlated with physical diagnosis. Students have an opportunity to perform a detailed anatomical dissection with emphasis upon clinical application. Laboratory fee, nonmedical students, \$25.00.

Anat. 105. Genetics. (17)

First year, first semester. This course consists of a series of one-hour lectures which include a consideration of the principles of genetics, population genetics, biochemical genetics, radiation genetics, immunogenetics, and microbial genetics. Special emphasis is placed on the importance, understanding, and application of genetics to health and disease.

^{*} The number of credit hours is indicated by the number in parentheses.

Anat. 106. Correlative Anatomy. (17) Elective

Each week during the first year anatomy course, patients will be demonstrated and the anatomical features of the case will be stressed to give the student a concept of the relationship of the anatomy to clinical subjects. While there are no examinations in this course the examinations in the other courses in anatomy will involve questions on the material presented.

FOR GRADUATES

The graduate degrees offered by the Department of Anatomy are the Master of Science and the Doctor of Philosophy.

Anat. 201. General Anatomy of the Human Body. (9)

Same course as Anat. 101, but on a more advanced level. It can be taken by graduate as well as postgraduate students. Laboratory fee, \$25.00, (Figge, Staff)

Anat. 202. Microanatomy. (6)

Same course as Anat. 102, but on a more advanced level. Laboratory fee, \$15.00. (Figge, Leveque, Chrispens)

Anat. 203. Human Neuroanatomy. (4)

Same course as Anat. 103, but with additional work of a more advanced nature. Laboratory fee, \$15.00. (Figge, Wells, Ebner, Staff)

Anat. 204. Clinical Anatomy. (4)

Same course as Anat. 104, but on a more advanced level. Laboratory fee, \$25.00. (Figge, Brantigan, Staff)

Anat. 205. Genetics. (2)

Same course as Anat. 105, but on a more advanced level. (Crispens)

Anat. 206. Correlative Anatomy. (1)

Same course at Anat. 106, but examination will be given.

(Figge, Staff)

Anat. 207. Fetal and Infant Anatomy. (2)

Fifteen periods of three hours each, every Thursday from 2:00 to 5:00 p.m. during the second semester. This course is open to graduate students and postgraduates interested in pediatrics. Laboratory fee, \$10.00. (Krahl)

Anat. 208. Studies on Normal and Atypical Growth. (2) Lectures in problems of growth. Two hours per week, time to be arranged. Sixteen weeks. (Figge)

Anat. 209. Morphological Microtechniques. (2)

Second semester. One lecture and two laboratory hours a week for one semester. The aim of this course is to study the theoretical and practical applications of a variety of microanatomical techniques and their utilization in research. Time to be arranged. (Leveque)

Anat. 210. Special Problems in Neuroanatomy. (2)

This course will deal with specific problems in the field of neuroanatomy, depending on the interests of the sponsor. It will consist of lectures, seminars, and specific laboratory assignments.

(Figge, Wells, Ebner)

Anat. 399. Research in Anatomy.

Maximum credits, 12 per semester. Research work may be taken in any one of the branches of anatomy. (Figge, Staff)

ANESTHESIOLOGY

Professor: HELRICH (HEAD OF DEPARTMENT).

Associate Professors: GOLD, HOLLINGSWORTH, AND STAFF.

During the first two years, the Department of Anesthesiology presents several lectures in the courses taught by the various preclinical departments. These lectures are intended to illustrate the application of the basic sciences to the clinical practice of anesthesiology. Emphasis is placed upon the physiologic and pharmacologic aspects of preanesthetic medication, choice of anethesia, and management of patients during surgery.

Anes. 101. Introduction to Anesthesiology.

Third year. The third year class is given a series of one hour lectures dealing with preoperative preparation and inhalation, local and spinal anesthesia. An effort is made to correlate the basic sciences with their clinical application.

Anes. 102. Introduction to Anesthesiology.

Fourth year. Each senior student spends two weeks in the operating rooms of the University Hospital or one of its affiliated hospitals administering anesthesia. Informal group meetings are held to emphasize factors affecting the anesthetic management of patients and to discuss pertinent anesthetic problems. The students also attend the regularly scheduled staff conferences in Anesthesiology.

► ART AS APPLIED TO MEDICINE

WILLIAM JOHN T. AUSTIN, Supervisor of Medical Art; THOMAS M. STEVENSON, JR., Assistant.

This Department is maintained to supply visual teaching aids in the form of lantern slides, graphic charts, medical drawings, and a limited number of motion pictures showing clinical and surgical techniques.

► BIOLOGICAL CHEMISTRY

Professor: ADAMS (HEAD OF DEPARTMENT) AND BESSMAN (PART TIME).

Associate Professors: EMERY, POMERANTZ, AND STEVENS.

Assistant Professors: BODE, GANIS (PART TIME), AND LAYNE (PART TIME). Instructors: BROWN, GRYDER, AND ROSSO.

Biochem. 101. Principles of Biochemistry. (240)

First year, second semester. A general introduction to biochemistry

with emphasis on basic chemistry of biologically important molecules, enzymes, intermediary metabolism, metabolic regulation, and molecular biology. Features of mammalian biochemistry are stressed but general and comparative aspects are considered.

FOR GRADUATES

The graduate degree offered by the Department of Biological Chemistry is the Doctor of Philosophy.

Biochem. 201. Principles of Biochemistry. (8) Same as Biochem. 101.

Biochem. 202, 203. Special Topics in Biochemistry (2, 2)

A series of lectures on topics of current interests in biochemistry. Coverage varies from year to year. Subjects reviewed in 1964-1965 included nucleic acid biochemistry, chromosomal structure, oxygenases, collagen structure and metabolism, peptide hormones, hemoglobin. Prerequisite, Biochem. 201.

Biochem. 204, 205. Seminar (1, 1)

Reports on current literature or on research in progress. Prerequisite, Biochem. 201.

Biochemistry 399. Research

Maximum credits, 12 hours per semester.

Additional offerings are contemplated for 1965-1966 and later years and will be announced as offered.

► BIOPHYSICS

Professor: MULLINS.

Associate Professors: SJODIN AND STERN.

Assistant Professor: HYBL.

The Department of Biophysics offers graduate courses of study leading to the degrees of Master of Science and Doctor of Philosophy. The study programs are flexible and depend on the preparation and interests of the student. Detailed requirements are available from the Department of Biophysics.

It is recommended that students studying for the degree of Doctor of Philosophy in Biophysics select a minor in either physics, chemistry, or

mathematics.

FOR GRADUATES AND ADVANCED UNDERGRADUATES

Biophys. 100, 101. Introduction to Biophysics. (3, 3)

Fall semester, odd years; Spring semester, even years. Three lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 18, 19. An introduction to the study of living systems applying the methods of physics and chemistry. The cell as a physicochemical system and ex-

perimental methods for investigation, nerve impulse conduction and excitation, the interaction of radiation with living material; the structure and properties of muscle tissue, connective tissue, and their proteins.

Biophys. 102. Biophysics of Radiation. (2)

Fall semester, even years. Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11. An advanced study of the interaction of radiation with living matter and with molecules of biological interest. Dosimetry problems and some bio-medical applications will be considered.

(Mullins, Sjodin, Robinson)

Biophys. 103. Laboratory Techniques in Biophysics. (3) Fall semester, 1967-1968. One lecture and two laboratory periods a week. Prerequisites, Biophys. 100, 101, or consent of the staff. Training in the use of radioactive isotopes, radioactive counting equipment, and bioelectric measuring instruments applied to the study of membranes; viscosity, optical rotation, protein titrations, spectroscopy, conductivity, as applied to fiber forming proteins. Laboratory fee, \$20.00. (Staff)

Biophys. 104. Seminar in Biophysics. (1)

Prerequisites, Biophys. 100, 101, or consent of the staff. Seminars on various biophysical topics given by the staff, graduate students, and guest speakers. (Staff)

FOR GRADUATES

Biophys. 200. Advanced and Theoretical Biophysics. (3) Fall semester, odd years. Three lectures a week. Prerequisites, Biophys. 100, 101, or consent of staff. An advanced and critical analysis of experimental findings in terms of biophysical theory.

Biophys. 201. Membrane Biophysics. (2)

Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 20, 21. Diffusion in and through membranes developed from first principles with special reference to problems of ion transport in biological membranes. (Siodin)

Biophys. 202. Biophysical Chemistry. (3)

Three lectures a week. Prerequisites, Physical Chemistry, Differential and Integral Calculus. The application of physicochemical theory to the methods used to study the properties of proteins, nucleic acids, and other macromolecules and their component parts, and the properties of the fibers and other biological fabrics derived from these macromolecules. The properties of interest will include molecular weight, size, shape and charge, intramolecular configuration, and intermolecular interaction. The methods of interest will include light scattering, ultracentrifuge, viscosity and other hydrodynamic methods, optical rotation and rotary dispersion. (Stern)

Biophys. 203. X-ray Crystallography. (3)

Three lectures a week. An introduction to molecular structure determination by the techniques of X-ray diffraction. Emphasis upon problems arising in structural studies of molecules of biological origin.

(Hybl)

Biophys. 205 Colloquium in Biophysics. (1)

Prerequisites, Biophys. 104 or consent of the staff. Colloquia on various biophysical topics given by the staff, graduate students and guest speakers. (Staff)

Biophys. 399. Research in Biophysics. (3-6)

Required of students planning to take the Master of Science degree or the Doctor of Philosophy degree in Biophysics. (Staff)

FELLOWSHIPS AND ASSISTANTSHIPS

A limited number of departmental fellowships and research assistantships are available in the Department of Biophysics. Inquiries should be directed to the department; deadline for applications is March 1.

► INTERNATIONAL MEDICINE

Professors: MC CRUMB (HEAD OF DEPARTMENT), MIDDLEBROOK, AND NUR AHMAD.

Associate Professors: BARNETT AND KLIMT.

Assistant Professors: GREGG, KOGON, AND UNDERWOOD.

International Centers for Medical Research and Training were created under the aegis of the National Institutes of Health in accordance with objectives of the International Health Research Act of 1960 (Public Law 86-610, July 12, 1960). It was the purpose of this act to advance the status of international health research and research training. Congress further expressed the hope that "a program through United States universities for the early development of research and research training centers with adequate field opportunities for international studies" would be established. This program under the direction of the Office of International Research of the National Institutes of Health provided for the establishment of a research and research training center at the University of Maryland School of Medicine in Baltimore in March of 1961. During the course of the past three years, the University of Maryland International Center for Medical Research and Training has succeeded in the establishment of domestic and overseas research-training programs in Baltimore and Lahore, West Pakistan, with the following objectives:

1. The training in research in international health problems of American physicians and allied professional workers as well as their

Pakistani counterparts.

2. The conduct of medical and allied research at the domestic and overseas sites to serve as the mechanism for such training.

3. Creation, through scientific endeavors, of an atmosphere of mutual understanding and friendship between the host nation and the United States.

In July of 1963 international health activities of the University of Maryland were consolidated under an Institute of International Medicine with departmental status within the School of Medicine. Under the present administrative arrangement, the International Center for Medical Research and Training forms the nucleus of the Institute into which other international and domestic programs are incorporated.

The Institute of International Medicine is composed of Divisions of Epidemiology and Biostatics, Experimental Pathology, Nutrition, Medical Entomology and Ecology, Virology and Rickettsiology, and Clinical Investigation, and derives major support in addition from the Departments of Microbiology, Medicine, and Pediatrics.

EDUCATIONAL PROGRAM

The Research Associate program of the International Center provides for postdoctoral training in the various disciplines represented within the Institute of International Medicine and affiliated Departments of Microbiology, Medicine, and Pediatrics. In general, the program encompasses three years, two of which are spent on a field assignment at the Pakistan Medical Research Center in Lahore.

Upon entry into the program each Research Associate works out in advance with his advisor a definitive plan of study and research. Assignment to Divisions and appointment to advisors depends upon the candidate's background, interests, and needs. The global concept of medicine is emphasized and provision is made for more advanced training in specialized aspects of international health. Following a basic orientation course, each Research Associate proceeds into one or another of specialized training areas. During this time he becomes identified with one of the Institute's Divisions and begins preceptor type training through the mechanism of a research project which also prepares the candidate for field work in Pakistan. Postdoctoral candidates with Ph.D., M.D., and D.V.M. degrees enter in one of several sepecialized programs soon after appointment to the program. These include infectious diseases-microbiology, nutrition, medical entomology, and epidemiology. In many instances overlapping interests will result in combined training and joint research projects. In some cases, additional clinical training of physician candidates will be considered essential to the success of the over-all program.

Applications should be submitted through the Head of the Department.

MEDICINE

- Professors: WOODWARD (HEAD OF DEPARTMENT), CAREY, ELLIS, KRAUSE, MC CRUMB, MERLIS, T. MORRISON, REVELL, ROBINSON, JR., AND V. SMITH.
- Associate Professors: Andersch, Bereston, Connor, Cotter, Eastland, Ellinger, Greisman, Gundry, Hetherington, Karns, Lisansky, S. Morrison, Parker, H. Raskin, R. C. V. Robinson, L. Scherlis, Schubart, M. Snyder, Spicer, Spurling, Tigertt, Wiswell, and Workman.

Assistant Professors: Andres, Beacham, Borges, Burnett, Carroll. Cohen, Ebeling, Entwisle, Fort, Freeman, Hornick, Jacobson, Jiji. Leach. Lee, Legum, Lerner, D. Levy, Mc Lean, Merrill, Morgan, Muller, J. Raskin, Reiter, S. Scherlis, Serra, Shapiro, Singleton, S. Smith, Swisher, Teitlebaum, Wisseman, Zieve, and Staff.

Med. 102. Clinical Clerkship in Medicine.

Third year. This course consists of a clinical clerkship on the medical wards of the University Hospital for a period of 9 weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations, and progress notes of assigned cases. They also attend ward rounds and conferences in general medicine with the Resident Staff, Attending Physicians, and Chief of Service. For an additional 3 weeks, students are assigned to the Baltimore City Hospitals for work in the General Medical Wards. They also attend ward rounds and teaching conferences in General Medicine, Tuberculosis, Neurology, and Radiology.

Med. 103. The Principles of Medicine.

Third year. A series of lectures in General Medicine, Neurology, and Clinical Medicine are given to the entire junior class on an elective basis.

Med. 104. Advanced Clinical Clerkship in Medicine.

Fourth year. Clinical clerkship on the medical wards of University Hospital, Mercy Hospital, and Maryland General Hospital, for 4 weeks. An additional 4 week period is spent in the Medical Out-Patient Department where instruction is given in General Medicine and the medical specialties. During this tour the senior students make home visits on selected patients, participate in the workup of chronically ill patients at the Montebello Chronic Disease Hospital, and attend consultative rounds in cardiology, infectious diseases, gastroenterology, arthritis, radioisotopes, neurology, hematology, endocrinology, and pulmonary diseases on the wards of the University Hospital.

Selected students who have completed the junior year may take Medicine 104 during the summer months. Application should be made to the Department Head prior to March 1 of the current year. Those students completing the course successfully will be assigned elective time during the academic year. This program is designed to foster research for promising students and to provide for more intensive training in the fundamentals of clinical medicine.

SUMMER FELLOWSHIPS

Students who have completed their junior year are encouraged to seek additional training during the summer months preceding their senior studies. This training may be obtained in one of several ways. A limited number of students are appointed to Clinical Clerkships on the Medical Wards of the University Hospital. In these positions, they are responsible, under supervision, for the history, physical examination, laboratory studies and progress notes of assigned cases.

In addition, certain of the medical subspecialty divisions provide specialized training for students as Summer Fellows during the summer months. The applicant is encouraged to apply directly to the Division Head. These fellowships enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems and therapeutic regimens peculiar to each of the medical subspecialties. Summer Fellowships are available in the following Divisions: Cardiology, Clinical Pathology (2 appointments), Dermatology (2 appointments), Endocrinology (2 appointments), Gastroenterology, Renal-Hyptertension (2 appointments), Infectious Diseases (2 appointments), Legal Medicine, Arthritis, Neurology and Radioisotopes (1 appointment), Pulmonary Diseases and Clinical Physiology (2 appointments). Interested applicants should contact the respective Division Head prior to January 1 of the year in which the fellowship is desired. In many instances a fellowship award is made providing remuneration for two or three of the summer months.

POSTGRADUATE FELLOWSHIPS

These are available in the various specialties of Medicine. For details

see specific division.

The Department of Medicine, for administrative purposes, is divided into eleven Divisions. Each of these Divisions participates in the major courses taught by the Department. In addition, a number of specialized courses and postgraduate fellowships are offered by the Divisions.

Division of Arthritis

Doctors: SCHUBART (HEAD OF DIVISION), KOCHMAN, AND STAFF.

Med. 105. Division Rounds.

Third year. Elective.

Med. 105a. Outpatient Clinic.

Fourth year. Elective. Weekly arthritis outpatient clinics and attendance at weekly arthritis seminar and rounds.

Division of Cardiology

Doctors: L. SCHERLIS, (HEAD OF DIVISION), ANTLITZ, DEMBO, GONZALEZ, LEE, S. SCHERLIS, SINGLETON, SWISHER, AND STAFF.

Physiol. 101. Principles of Physiology.

First year. Lectures and demonstrations in the Electrical Activity of the Heart in collaboration with the Department of Physiology.

ID. 3. Physical Diagnosis.

Second year, second semester. The Division of Cardiology participates in presenting this course.

Med. 106. Electrocardiology. (16)

Third and fourth years. Elective. This is an introductory course consisting of illustrated group lectures and exercises.

Med. 106a. Outpatient Clinic and Divisions Rounds Fourth year. Elective weekly clinic and attendance at rounds.

FELLOWSHIPS

These are available to selected postgraduate applicants. The Fellow participates in the activities of the Division, including cardiac catheterization, by dilution and other physiologic studies. The fellowship begins July 1st of each year. A financal stipend is provided. Application is made through the Head of the Division and must be completed by October of the preceding year.

Division of Clinical Pathology

Doctors: SPURLING (ACTING HEAD OF DIVISION), ANDERSCH, JIJI, LANCASTER, MILLER, AND STAFF.

Med. 101. Clinical Pathology. (128)

Second year. The course is designed to train the student in the performance and interpretation of the fundamental laboratory procedures used in clinical diagnosis. During the first semester the basic techniques of hematology as well as clinical aspects of blood diseases are taught. Blood group immunology in relation to transfusion is also covered. In the second semester the performance and interpretation of tests used in the diagnosis of renal, hepatic, gastric, pancreatic, and metabolic diseases are considered. A review, with clinical applications, of acid-base balance and electrolyte disturbances is included. Methods of examination of cerebrospinal fluid, transudates and exudates are taught. Elements of clinical parasitology complete the work in this semester.

Each student provides his own microscope and blood counting equipment. A completely equipped locker is provided for each student.

POST GRADUATE FELLOWSHIPS

Two full-time clinical and research fellowships in hematology are available to applicants who have had a minimum of one year internship. A financial stipend is provided. Application should be made to the Head of the Division.

Division of Dermatology

Professor: H. M. ROBINSON, JR. (HEAD OF DIVISION), Doctors: BACHARACH, BARNETT, BERESTON, BUNDICK, ELLIS, HOLLANDER, RASKIN, R. C. V. ROBINSON. SHAPIRO, STRAHAN, AND STAFF.

Med. 107. Introduction to Dermatology.

Third year. Students are given assigned reading on the more common skin eruptions. Nine two hour clinical sessions are held for each quarter of the junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis.

Med. 108. Practical Exercises in Dermatology.

Fourth year. Groups of 12 students spend 20 hours in the out-patient department where they are given individual instruction in the diagnosis and treatment of cutaneous lesions. Emphasis is laid on the relationship of various eruptions to systemic conditions. Instruction is given in mycologic technique.

Med. 108a.

Students who take dermatology for the senior elective receive special training in clinical dermatology and the basic sciences as applied to dermatology.

GRADUATE TRAINING

The Division of Dermatology is approved by the American Board of Dermatology for a three year period of training which is required by the Board. This consists of instruction in the basic sciences (mycology, bacteriology, histopathology, chemistry, and physiology), and instruction in clinical dermatology. Emphasis is placed on the relationship of cutaneous lesions to systemic diseases. Residents and Fellows spend a part of the training period at the Rosewood School for Retarded Children, the Baltimore City Hospitals, and in the private offices of the members of the staff. Temporary membership in the dermatologic societies is provided under the sponsorship of the Division Head.

Division of Endocrinology and Metabolism

Doctors: CONNOR (HEAD OF DIVISION), WISWELL, WORKMAN, AND STAFF.

Endocrine Clinic—Conference and Rounds.

Fourth year. Elective. Patients with a variety of endocrine-metabolic diseases are seen in the Out-Patient Department every Monday afternoon from 1:30 to 4:00 p.m. This is followed by a Conference in which clinical case material is presented for discussion with staff members and students actively participating. Every Friday afternoon weekly wards rounds are held.

NUCLEAR MEDICINE (DR. WORKMAN, HEAD)

Pharmacology 201.

Second year. In cooperation with the Department of Pharmacology, a portion of one laboratory session is utilized to demonstrate the accuracy of a radioisotope method of estimating thyroid function.

Med. 110.

Fourth year elective (Conference Nuclear Medicine).

Postgraduate Fellowships are available to applicants who have completed internship and at least one year of residency training. Opportunities for active participation in clinical and research activities are available. Independent research investigations are encouraged. A financial stipend is provided. Three full-time fellowship positions are available.

Division of Gastroenterology

Doctors: RASKIN (HEAD OF DIVISION), EBELING, S. MORRISON, V. SMITH, AND STAFF.

ID. 2. Introduction of Clinical Medicine.
Second year. The Division of Gastroenterology participates in the presentation of this course.

Division of Hypertension and Renal Disease

Professor: BORGES; Doctors: ENTWISLE, YOUNG, AND STAFF.

Med. 110. Conferences on Hypertension.

Fourth year. Elective. Conferences on pathologic-physiology of hypertensive and renal disorders, sites of action of antihypertensive drugs, methods for screening patients with hypertension and therapeutic methods in various disease processes.

Med. 111. Outpatient Clinic and Division Rounds.

Fourth year. Elective. Weekly clinics and attendance at rounds.

POSTGRADUATE FELLOWSHIPS

The Division sponsors two Fellows who receive training in pathologicphysiology of hypertensive states, techniques of screening patients and management of hypertensive renal problems. In addition, he participates actively in investigative problems. A financial stipend is provided.

Division of Infectious Diseases

Doctors: HORNICK (HEAD OF DIVISION), M. SNYDER, JACKSON, TOGO, AND STAFF.

POSTGRADUATE FELLOWSHIPS

The Division sponsors two Fellows who receive instruction in laboratory techniques and clinical investigation. Fellows participate in all functions of the Division, including collaboration in investigative problems. A financial stipend is provided. Application is made through the Head of the Division.

Division of Physical Diagnosis

Doctor: COTTER (HEAD OF DIVISION) AND STAFF.

ID. 2. Introduction of Clinical Medicine.

Second year. The Division participates in presenting this course.

ID. 3. Physical Diagnosis.

Second year, second semester. This course implements ID. 2. and provides the student with bedside instruction in physical diagnosis. Small tutorial groups are formed, each under the direction of an instructor. In the first five weeks, experience in physical examination of normal individuals is given one afternoon weekly. During the subsequent 12 weeks, students become acquainted with abnormal signs through examination of hospitalized patients. For the first five of these 12 weeks the Division of Cardiology gives instruction in the physical examination of the heart. Thereafter, sections are assigned in rotation to the Division of Neurology and the Department of Pediatrics for instruction in these specialties.

Division of Pulmonary Diseases

Doctors: SPICER (HEAD OF DIVISION), BLIDE, KERR, KOWITZ, MARINE, MORGAN, RAMIREZ-RIVERA, RUSCHE, SIMPSON, AND STAFF.

Med. 113. Clinical Clerkship in Pulmonary Diseases.

Third year. This 3 week period of training is given on the chest ward service and in the chest clinic. Students are assigned hospital patients whom they work up, follow, and present at rounds and at conference. Clinic and bedside teaching emphasizes development of the technique of the medical examination which is correlated with x-ray study. The seminars and conferences emphasize an understanding of the basic processes involved in respiratory health and disease.

Fourth year. Elective. The chest clinic provides an opportunity for clinical and physiolgic study of patients with chronic bronchopulmonary disease, especially chronic bronchitis and emphysema. Emphasis during this elective period is placed on development of understanding of principles and techniques of testing of cardio-pulmonary function

testing.

STUDENT FELLOWSHIP

The service offers four such positions for the support and supervision of students throughout their medical school career. These fellowships will provide special graded instruction and experience in research methodology, epidemiology, physical diagnosis, clinical chest disease, and pulmonary physiology. The individual student, during his medical school career, will gradually be introduced to clinical medical research so that he may plan and complete a research project during this period.

MICROBIOLOGY

Professor: WISSEMAN (HEAD OF DEPARTMENT).

Associate Professor: EYLAR AND SMITH.

Assistant Professors: LEVIN, MC CRUMB, MYERS, ROSENZWEIG, SNYDER, AND STAFF.

Microbiol. 101. Medical Microbiology and Immunology. (180)

Second year, first semester. This course is intended to introduce the student to basic concepts of microbial agents and immunologic mechanisms necessary to understand infectious diseases, public health, and diseases of immunologic origin. Properties of microorganisms are considered in relation to pathogenesis of infections, mechanisms of tissue damage and host defense mechanisms. Bacterial, fungal, viral, and rickettsial agents are studied in both lecture and laboratory.

FOR GRADUATES

The Department of Microbiology offers the degree of Doctor of Philosophy and encourages especially those who wish to enroll in the combined M.D.-Ph.D. program. While the degree of Master of Science may be offered in special instances, priority for research facilities will be given aspirants to the Ph.D. degree. These courses are available only by prior arrangement with the Staff.

Microbiol. 201. Medical Microbiology and Immunology. (8)

First semester. Four lecture hours and eight hours in laboratory and group conferences per week. Laboratory fee, \$10.00. This course, intended for the serious advanced student of medical microbiology, is built upon the framework of Microbiol. 101 supplemented with advanced readings and laboratory work.

Microbiol. 203. Microbial Physiology. (3)

Second semester, alternate years. Three lectures per week supplemented with demonstrations. By consent of instructor.

Microbiol. 205. Cytology and Genetics of Microorganisms, (2)

Second semester, alternate years. One lecture and one laboratory per week. Laboratory fee, \$10.00. Registration by consent of instructor.

Microbiol. 206, 207. Seminar. (1, 1)

First and second semesters. One session per week. Graduate students, staff, and guests participate in comprehensive and critical reviews of subjects of special interest or pertinent to graduate training program.

Microbiol. 208. Medical Mycology. (2)

Second semester, alternate years. One lecture and one laboratory per week. Laboratory fee, \$10.00. Registration by consent of instructor.

Microbiol. 209. Special Topics.

(Permission and credit arranged individually.) This course provides the opportunity for the graduate student to pursue under supervision subjects of special interest not offered in other formal courses.

Microbiol. 210. Advanced Virology and Rickettsiology Lecture. (3)

This course considers the general properties of viruses and rickettsiae, methods for studying them, and finally concentrates on agents of medical importance. Special emphasis is placed on the host-parasite relationship, characterization of the various viral and rickettsial agents and on biological and ecological factors. Registration is by permission of instructor only. The course will be given on the average on alternate years in the Spring semester. There are two weekly sessions of 90 minutes each. Prerequisite: Microbiol. 201 or equivalent.

Microbiol. 211. Virology and Rickettsiology Laboratory. (2)

This course is the laboratory counterpart of Microbiol. 210. It is designed to familiarize the student with the major techniques for the study of virus and rickettsial agents, and to give him first hand experience with a variety of the more common agents. Registration is by permission of instructor only. Because of the limited facilities and the nature of the work, it may be necessary to restrict registration in this course according to the following priority: students majoring in medical

microbiology, then students minoring in microbiology and, finally, others. The laboratory consists of two formal sessions per week; however, the nature of the work frequently requires additional participation throughout the week.

Microbiol. 399. Research (for thesis problem). Maximum credits, 12 hours per semester.

► NEUROLOGY

Professors: NELSON (HEAD OF DEPARTMENT) AND MERLIS.

Associate Professor: TEITELBAUM.
Assistant Professor: KRAMER.

Instructors: HECK, HULFISH, MOSSER, AND OLEYNICK.

Neuro. 101. Introduction to Clinical Neurology (16) (Second year.) Lecture-demonstrations in neurology are presented, emphasizing correlation of anatomy, physiology, and pathology of the nervous system with clinical neurology.

ID. 3. Neurologic Aspects of Physical Diagnosis. (8) (Second year.) The Department participates in the physical diagnosis course with instruction in the performance of the normal neurological examination as well as examination of selected patients with neurological disorders.

Neuro. 102. Clinical Clerkship in Neurology.

Third year. Available for a portion of the third year class. This course consists of a clerkship on the neurology ward of the University Hospital for approximately four weeks. Under house staff and attending staff supervision, the students are responsible for the total care of the patient with neurological disease. They may assist in the performance of some procedures and attend rounds and conferences in neurology.

Neuro. 103. Practical Clinical Neurology. (10)

Third year. A series of lecture-demonstrations given to the entire third year class with emphasis on diagnosis and treatment of the common neurological diseases.

Neuro. 104.

Fourth year. Elective time of 4 weeks may be spent in the Department of Neurology, either on the ward or in one of the research laboratories.

SUMMER FELLOWSHIPS

Students who have completed their second or third years and have an interest in the neurological sciences may apply for additional training in clinical neurology or in one of the research laboratories of the Department of Neurology. Qualified students may receive remuneration for their summer work.

POSTGRADUATE PROGRAM

There is a fully approved three year program for specialty training in Neurology at the University Hospital. This provides for clinical training as well as a rotation through the associated basic science disciplines. Fellowships with a stipend are provided and begin July 1 each year. For further information, contact the Head of the Department.

OBSTETRICS & GYNECOLOGY

Professors: HASKINS (HEAD OF DEPARTMENT) AND KALTREIDER.

Clinical Professors: REESE AND SIEGEL.

Associate Clinical Professors: CORNBROOKS AND MC NALLY.

Assistant Professors: MIDDLETON, MOSZKOWSKI, MUNFORD, AND VILLA SANTA.

Assistant Clinical Professors: BRADY, DAVIS, DIGGS, DIXON, MORRIS, MORRISON, SEEGAR, AND STAFF.

Ob-Gyn. 101. Clinical Clerkship in Obstetrics and Gynecology.

Third year. Students are assigned to Obstetrics and Gynecology for a period of six weeks. As clinical clerks, they participate in the original diagnostic studies, pelvic surgical procedures, and postoperative care of hospitalized patients.

Daily rounds, seminars, and departmental conferences with the attending staff and house officers aid the student in the interpretation and correlation with his observations, diagnoses, and the several thera-

peutic regimens

Specific instruction is provided in pathology, basic science, and endocrinology as related to obstetrics and gynecology. Obstetrical manikin exercises, prenatal examination, and gynecologic outpatient care are accomplished in the Outpatient Department.

Ob-Gyn. 102. Advanced Clinical Clerkship in Obstetrics and Gynecology.

Fourth year. Students are assigned to Obstetrics and Gynecology at Baltimore City Hospital for a period of four weeks. The student rotates through the accident room, delivery floor and maternity division. He participates in daily rounds, deliveries, postpartum care, and seminars. Specific instruction in cancer, obstetrical complications, and pelvimetry is provided.

► OPHTHALMOLOGY

Professors: RICHARDS (HEAD OF DEPARTMENT), HART, AND PECKHAM.

Associate Professor: FOX.

Assistant Professors: BERNSTEIN, BOAZ, CAVONIUS, MEISELS, SCHOCKET, AND WILKINS.

Instructors: CREAMER, FEINBERG, AND GOLDBERG.

Ophthal. 101. Introduction to Ophthalmology.

Third year. A lecture course for the entire class covers the fundamentals of Ophthalmology. Weekly section work, with emphasis on the use of the ophthalmoscope, includes discussion periods, demonstrations, and clinics.

Ophthal. 102. Clinical Ophthalmology.

Fourth year. Ward rounds, demonstrations, discussion periods, and clinics in diseases of the eye.

► PATHOLOGY

Associate Professors: FREIMUTH, LINDENBERG, MERKEL, PETTY, RASMUSSEN, REIMANN, SCHULTZ, TOLL, WEINBERG, WOOD, AND WRIGHT.

Assistant Professors: ADAMS, BREITNECKER, BURKART, GUERIN, KATASE, KIEFER, KIME, LEVIN, ROSENHOLTZ, AND STAFF.

Path. 101. General, Systemic, and Experimental Pathology. (364)

Second year. This course starts with the study of the basic principles of pathology and progresses with the study of diseases of the various organ systems. Teaching is chiefly by the case method using fresh and fixed autopsy cases but also utilizes gross museum specimens and a set of prepared selected histological slides. Students assist in the performance of autopsies in small groups, prepare final protocols, and present the findings and interpretation of the cases to others in the class.

Included in the course is an introduction to experimental pathology by two experiments illustrative of basic pathologic principles.

Path. 102. Experimental Pathology. (Hours vary with project chosen.)

Second year. A limited number of students have the opportunity to participate in experimental work. Some carry out a series of 6 experiments selected to illustrate the dynamics of disease processes. Others choose some area of the Department such as tissue culture, electron microscopy, or cytopathology for seminars and the pursuit of an original project under the supervision of a member of the Staff.

Path. 103. Correlative Medical Pathology. (9)

Third year. This course is given in collaboration with the Department of Medicine and consists of a series of conferences with small groups of students, an internist and a pathologist. An illustrative clinical case is used as the base for discussion of a few selected diseases with particular emphasis on correlating the anatomical and functional changes with the clinical disease.

Path. 104. Surgical Pathology. (16)

Fourth year. This course consists of a series of rather informal lectures and discussions of the pathology of various surgical conditions with small groups of students using colored lantern slides, gross museum specimens, a set of prepared microscopic slides and current gross surgical specimens.

Path. 105. Clinical Pathological Conferences. (36)

Third and fourth years. These exercises are held in collaboration with various clinical departments. Histories from carefully chosen cases are circulated prior to the conference. Diagnoses are submitted and the differential diagnoses are discussed by selected members of the clinical faculty. The pathological findings are then presented and correlated with the clinical disease.

Path. 106. Elective Pathology. (115)

Fourth year. Students may spend a month continuously in pathology as an assistant to a resident participating in autopsies, examination of surgical specimens, and contributing to discussions in the various conferences of the Department.

Path. 107. (56)

Second year (second semester). A small group of students attend a series of round table discussions on the diagnosis of medical diseases by biopsy. The course includes microscopic study of the histopathologic findings, their interpretation and significance with special emphasis on diseases of the liver and kidney.

FELLOWSHIPS (AFTER SOPHOMORE YEAR)

Students may be selected for summer fellowships in pathology or in certain instances drop out of the regular curriculum for a year and devote their entire time to pathology. Their activities are either of two types, one consists of serving as externs in pathology, the other is directed more toward research with students participating in research projects under the supervision of a Staff member.

Division of Neuropathology

Doctors: WAGNER (HEAD OF DIVISION) AND STAFF.

A series of lectures, demonstrations, and case studies relating to the problems of neurologic disease is integrated into the second year course in pathology. Additional courses offered include:

Path. 106. Correlative Neuropathology. (4)

Third year. This course is given in collaboration with the Division of Neurology. Presentation of the history of an illustrative case is done by the student. This is followed by group discussion and by the presentation of neurologic and pathologic findings by the faculty.

Path. 107. Advanced Neuropathology.

Elective course open to third and fourth year students and Doctors of Medicine. One hour per week, second semester. Includes review of practical anatomy, discussion of pathologic principles as applied to the central nervous system, staining techniques and a thorough study of a selected group of illustrative cases with emphasis on clinical correlation and microscope appearance. Seminar discussions and papers presented by students are included. Offered annually for ten acceptable students.

Division of Forensic Pathology

Doctors: FISHER (HEAD OF DIVISION), FREIMUTH, GUERIN, LINDENBERG, PETTY, AND STAFF.

FOR GRADUATES

In addition to teaching basic forensic pathology in the second year course this division offers a number of other courses including a graduate

program in toxicology leading to the degrees of Master of Science and Doctor of Philosophy in Toxicology.

Leg. Med. 201. Legal Medicine. (1)

Third year or graduate students. This course consists of one hour of lecture for each of 12 weeks and 4 hours of assigned reading.

Leg. Med. 202. Toxicology. (10)

Two hours lecture, 8 laboratory hours per week for one year.

Leg. Med. 203. Gross Pathologic Anatomy as Related to Toxicology. (2)

Two hours per week for one year.

Leg. Med. 204. Research in Toxicology Leading to Preparation of a Thesis for the M.S. (6)

Minimum credits, six.

Leg. Med. 205. Research in Toxicology Leading to Preparation of a Thesis for the Ph.D. (30)

► PEDIATRICS

Professors: BRADLEY (HEAD OF DEPARTMENT), BESSMAN, FINKELSTEIN, AND HEPNER.

Associate Professors: BALDWIN, CLEMMENS, GLASER, GLICK, GOOD, GORTEN, SCHERLIS, F. B. SMITH, WALKER, AND WELLS.

Assistant Professors: FINEMAN, GROSSMAN, HAMMEL, HELDRICH, JANTZ, JENSEN, LENTZ, LONDON, LYON, MOSSER, SHIFFMAN, AND WEAVER.

Associates: FIELD, HOWELL, MANSDORFER, MC CRUMB, SPRAGINS, AND STAFF.

Ped. 101. Inpatient Clerkship.

Third year. Students are assigned as clinical clerks for a period of six weeks to the pediatric wards of the University and Mercy Hospitals. They are responsible for patient care and work with house staff and instructors in planning the workup and treatment of assigned patients. Ward rounds are attended three times weekly. The students are assigned tutors who meet with their students two times weekly.

Daily conferences are held covering x-ray diagnosis, cardiology, journal review, chart conferences, neonatal mortality, case discussions and metabolic diseases. Discussions cover concepts of the premature and neonate, therapeutic management of pediatric patients, nutritional

aspects and disturbances of the genitourinary tract.

Ped. 102. Outpatient Department Clerkship.

Fourth year. Students assigned to pediatrics as clinical clerks for a period of four weeks work in the Pediatric Outpatient Department of the University Hospital. All patients seen by the students are reviewed by an instructor of the pediatric staff. Daily conferences covering a wide range of pertinent pediatric topics are held from 9:30 to 10:30

a.m. Students are assigned to the Development, Seizure, Pediatric Hematology, Cardiology and Child Guidance Clinics. Senior students are responsible for physical examinations of all neonates. Field trips to various community agencies are offered to selected students. Ward rounds for senior students are held twice weekly in the University Hospital. Senior students attend the departmental noon conferences.

Ped. 103. Laboratory Research Problems in Pediatrics.

Second year. Elective. (Two students per year.) Students will be required to set up simple laboratory procedures to be used by them in the study of a clinical problem. Problems will be selected of such limited scope that a fairly complete project can be done by two students cooperating in their elective time over a period of one year. Emphasis will be made on the accuracy and reliability of standard techniques, as applied to the detailed analysis of a clinical problem. Interested students should apply to Dr. Bessman.

► PHARMACOLOGY

Professors: BURGISON AND TRUITT.

Associate Professors: BRYANT AND O'NEILL.

Assistant Professors: CASCORBI, MUSSER, ROZMAN, AND RUDO.

Pharmacol. 101. General Pharmacology. (233)

Second year. This course is designed to include those phases of pharmacology necessary for an intelligent use of drugs in the treatment of disease. The didactic instruction includes pharmacy, prescription writing, toxicology, posology, pharmacodynamics, and experimental therapeutics. The laboratory exercises parallel the course of lectures.

In addition, optional conference periods and lectures are available

for students desiring further instruction or advice.

FOR GRADUATES

All students majoring in the Department of Pharmacology with a view to obtaining the degree of Master of Science or Doctor of Philosophy should secure special training in anatomy, mammalian physiology, organic chemistry, and physical chemistry.

Pharmacol. 201. f. s. General Pharmacology. (9)

Same as 101, for students majoring in pharmacology. Additional instruction and collateral reading are required. Laboratory fee, \$20.00.

Pharmacol. 205. Research.

Maximum credits, 12. Credit in accordance with the amount of work accomplished.

Pharmacol. 206. Pharmacologic Methods.

Maximum credits, 4. Credit in accordance with the work accomplished.

Pharmacol. 207, 208. Chemical Aspects of

Pharmacodynamics. (2, 2)

Pharmacol. 209. Biochemical Pharmacology. (2)

Pharmacol. 210. History of Pharmacology. (2)

► PHYSIOLOGY

Professor: BLAKE (HEAD OF DEPARTMENT).

Associate Professors: Adelman, Barraclough, Coleman, Merlis, Pinter,

AND SOLOMON.

Research Associate Professor: GLASER.

Assistant Professors: FAYER, GREISMAN, AND KARPELES.

Instructor: BARRY.

Physiol. 101. Principles of Physiology. (225)

First year, second semester. The lectures cover the major fields of physiology, including the following areas: central and peripheral nervous systems, neuromuscular apparatus, heart and circulation, respiration, kidney and body fluids, gastrointestinal tract, endocrines, and reproduction. The laboratory includes experiments with frog and turtle heart and nerve-muscle preparations, mammalian operative work and observations on the human subject.

FOR GRADUATES

The graduate program in physiology is designed primarily for students oriented toward an academic career in the field of mammalian physiology, basic or applied. Some background in mathematics, physics and/or physical chemistry is considered essential and ordinarily only those wishing to complete the requirements for the Ph.D. degree will be considered. Before admission to candidacy for the Doctor of Philosophy degree the Department gives a qualifying examination, both oral and written, which must be satisfactorily passed.

A student majoring in Physiology will ordinarily be expected to take General Physiology (209) and Principles of Physiology (201) before the advanced seminar courses and will extend his major program by taking

courses in other departments of the University.

Physiol. 201. Principles of Physiology. (9)

Same as Physiol. 101, for graduate students taking physiology. Additional reading will be required. Laboratory fee, \$15.00. (Staff)

Physiol. 202. Cardiovascular Physiology. (2)

Two hours a week for 15 weeks. Reading assignments, seminars, conferences on current research in the cardiovascular field. (Karpeles)

Physiol. 203. Pulmonary Physiology. (2)

Two hours a week for 15 weeks. Reading assignments, lectures, seminars on current research in pulmonary physiology. (Staff)

Physiol. 204. Physiological Techniques.

Time and credit by arrangement. The various technical procedures currently operating in the Department will be demonstrated and opportunity will be given for acquiring experience in them. (Staff)

Physiol. 205. Physiology of Kidney and Body Fluids. (2) Two hours a week, lectures, seminars and conferences, for 15 weeks.

Consideration will be given to the current status of knowledge of renal function and body fluids in vertebrates, with particular reference to mammals.

Physiol. 206. Seminar.

Credit according to work done. Weekly meetings are held to discuss recent literature and results of departmental research. (Staff)

Physiol. 207. Physiology of the Central Nervous System. (2)

Two hours a week for 15 weeks. Lectures, seminars and reading assignments on current knowledge of central nervous system function.

(Merlis)

Physiol. 208. Physiology of the Autonomic Nervous System. (2)

Two hours a week for 15 weeks. Lectures, seminars and reading assignments on current knowledge of autonomic nervous system function. (Blake)

Physiol. 209. General Physiology. (2)

Two hours a week for 15 weeks. Lectures, reading assignments, and seminars on selected topics in general, cellular and neurophysiology. Some laboratory work is included. (Adelman)

Physiol. 399. Research.

By arrangement with Head of the Department.

► PREVENTIVE MEDICINE AND REHABILITATION

Professors: ENTWISLE (HEAD OF DEPARTMENT).

Associate Professors: BARRETT, DOWLING, HENDERSON, MAHONEY, P. RICHARDSON, AND TAYBACK.

Assistant Professors: BAXTER, FLEISCHER, KOGON, REINKE, A. RICHARDSON, AND STAFF.

Prev. Med. 101. Biostatistics. (42)

First year, second semester. Each weekly two and a half hour session is divided into a lecture period followed by small group sessions used for review, discussion or practical exercises. This series of lectures and small group sessions illustrates the basic methods of statistical analysis and demonstrates their use in several areas of clinical practice and investigation. The course will cover the following statistical subjects: Concepts of measurement in medicine, analytical methods for quantitative and qualitative data, life table method and application to medicine, age adjustment and bio-assay.

Prev. Med. 102. Epidemiology and Community Medicine. (34)

Second year, second semester. The basic methods and application of epidemiology are reviewed and illustrated by consideration of certain groups of chronic diseases. Patterns of illness and medical care are discussed, and the role of a variety of health agencies is reviewed.

Prev. Med. 103. Applied Preventive Medicine and Rehabilitation I. (48)

During third year the student is assigned a patient with a chronic disease and follows this patient and the patient's family, the student serving as a health advisor. During this year of practical experience, the student studies in depth the medical care and management of his patient, including the use of community resources, and the community distribution and the epidemiology of the specific chronic diseases which his patient manifests. This family-based program gives the student an opportunity to understand comprehensive medical care.

In addition, the student participates in small group sessions in the areas of rehabilitation, including comprehensive evaluation services, medical care and chronic disease. Part of the student's assign-

ment is at Montebello State Hospital.

Prev. Med. 104. Applied Preventive Medicine and Rehabilitation II. (18)

Fourth year. Each student participates in four seminars devoted to broad consideration of the application of preventive medicine in general and specialty practice. In addition, the student participates in four clinical conferences on rehabilitation problems of patients in University Hospital.

Division of Physical Medicine and Rehabilitation

Doctors: P. RICHARDSON (HEAD OF DIVISION), DOWLING, FLEISCHER, GESSNER, LENTZ, MAHONEY, A. RICHARDSON, AND STAFF.

The Division participates in Preventive Medicine 103 where the students receive lecture demonstrations and participate in small group discussions in the application of physical medicine procedures and rehabilitation techniques in the general practice of medicine. Part of this assignment is at Montebello State Hospital. The Division also participates in Preventive Medicine 104 with four clinical conferences on rehabilitation problems of patients in the University Hospital.

► PSYCHIATRY

Professors: BRODY (HEAD OF DEPARTMENT), BARTEMEIER, FARINHOLT, GRENELL, KUBIE, MONROE, AND REID.

Associate Professors: ANDERSON, M. GUTTMACHER, HARTZ, KLEE, B. POPE, RAFFERTY, H. ROBINSON, WEINTRAUB, WILL, AND I. YOUNG.

Assistant Professors: HUFFER, LISANSKY, RAHER, VIEGA, AND WESTON.
Instructors: EICHLER, FIEDLER, HOLDEN, O'CONNOR, TANEGA, AND STAFF.

Psy. 101a. Life Situations, Emotions and Illness. (Saturday mornings, 1st semester.)

This course develops a frame of reference for viewing illness of all kinds, emotional and physical, from the study of adults with a wide

variety of medical problems. Much of the material is developed during the course of class room interviews with patients from the medical and surgical wards. Important issues include: reactions to stress and situational and social factors in disease. Emphasis is placed upon observing, understanding and evaluating the personal and social factors in the disease process, in treatment, and in prevention.

Psy. 101b. Introduction to Personality Development.

(Saturday mornings, 2nd semester.)
With the material of the first semester as background, this course offers a developmental approach to the task of understanding how an individual becomes the person he is. A survey of representative theoretical approaches is followed by a chronological discussion of childhood which integrates genetics, embryology, psychoanalysis, learning theory and the social sciences. Etiological considerations and relationships to medical problems and patient management are emphasized.

Psy. 101c. Behavioral Science and Psychiatry. (Tuesday and Thursday mornings, 2nd semester.) (32)

This course is concurrent with 101b, and it is expected that the two series of discussions will have a mutually stimulating value. Both 101b and 101c attempt a more detailed analysis of issues arising in the general clinical framework developed in 101a. This course will introduce basic concepts derived from the behavioral sciences (sociology, anthropology, and psychology) and from psychoanalysis and related areas as they apply to the problems encountered by the clinician. It is expected that courses 101a, b, and c will provide a basis for the material of course 102.

Psy. 102. Introduction to Clinical Psychiatry.

Psychopathology and Psychotherapy. (60) Class room interviews with psychiatric patients, lectures and discussion will furnish a basis for the clerkships of the third and fourth years.

Psy. 103. Psychiatric Clinical Clerkship. (3 weeks)

Third year. Students work as clinical clerks in The Psychiatric Institute. Each student is assigned to an Assistant Resident who acts as a preceptor. As patients are admitted, they are assigned to a student who assumes responsibility for the examination and the history. In the outpatient department, the students see all patients applying for treatment either on an emergency basis or by appointment. During the evenings two students take "call" with an Assistant Resident.

Psy. 104. Advanced Psychiatric Clinical Clerkship (4 weeks)

Fourth year. A clinical clerkship is offered in the wards of the University Hospital for one month. Emphasis is placed on diagnosis, methods of interviewing, methods of developing and managing a therapeutic doctor-patient relationship, and carrying out psychotherapy. Two afternoons each week are spent treating patients under supervision in the Comprehensive Clinic. Each student also works with one child

patient and his parents in the Mental Hygiene Clinic of the Western Health District. An eight hour seminar on psychosomatic problems is given.

RADIOLOGY

Professors: Dennis (Head of Department), Bloedorn, and Davidson.

Associate Professors: Cuccia, Hearn, Lyon, Robinson, and Wolfel.

Assistant Professors: Seydel and Wizenberg.

Instructors: HYMAN, NAVARRO, RESTIVO, THOMAS, AND WALLOP.

Rad. 101. Radiologic Anatomy. (12)

First year, first semester. A correlated course is given in conjunction with the Department of Anatomy. This course consists of nine lecture-demonstrations devoted to the skull, chest, gastrointestinal tract, genitourinary tract, the spine, and joints. Not only is the normal anatomy shown, but the radiologic aspects of a few pathologic processes are also shown for emphasis and correlation.

Rad. 103. Radiation Therapy Orientation. (5)

Third year. This series of five lectures is given to the whole third year class to present the basis of radiation therapy. In the first lecture, the basic principles of radiotherapy and the present and future role of radiotherapy of malignant tumors is presented. The second lecture is devoted to the principles of radiobiology, radiophysics and radiation protection. The last three lectures deal with groups of tumors that are curable with ionizing radiation with a discussion of the principle indications, management and results of radiotherapy in each of these groups.

Rad. 104. Radiologic Orientation I. (33)

Third year. A series of lecture-demonstrations are given to small groups of students at the Baltimore City Hospital, Mercy Hospital, and the University Hospital. An attempt is made to cover the roentgen studies of all systems of the body with demonstrations of the more common lesions encountered in each system. At Baltimore City Hospital, twelve lecture-demonstrations are given on the chest, the genitourinary tract and metabolic bone diseases, while at Mercy Hospital, three hours are devoted to the arthritides and bone tumors. At the University Hospital, eighteen additional lecture-demonstrations are devoted to the lungs, gastrointestinal tract, heart, and skull.

Rad. 105. Radiologic Orientation II. (60)

Fourth year. Students in groups of five are assigned full time for a period of two weeks to the Diagnostic Division of the Department of Radiology. On alternate mornings, a student observes chest and gastro-intestinal fluoroscopy, interviews outpatients and correlates the clinical and roentgen findings on these patients and attends film reading sessions with the staff radiologists. The students are taught the basic principles of fluoroscopy and are assigned a few patients with pulmonary and cardiac lesions to fluoroscope. Recommended reading assignments are made and the students spend the afternoons studying a select group of

teaching cases which are correlated with these reading assignments. Daily diagnostic conferences are held with the students, and at this time the interesting cases of the day are presented. They also attend joint conferences held with the department of Pediatrics, and the Division of General and Thoracic Surgery.

► SURGERY

Professors: BUXTON (HEAD OF DEPARTMENT), AUSTIN, BLANCHARD, COW-LEY, HULL, KITLOWSKI, O'ROURK, PESSAGNO, YEAGER, AND YOUNG.

Associate Professors: FLOTTE, GARLICK, LINBERG, MANSBERGER, SCARBOR-OUGH, AND THOMPSON.

Assistant Professors: Adams, Attar, Bongardt, Bowie, Cox, Govatos, Haines, Hubbard, Mays, Mosberg, Schwartz, Siwinski, Wilder, And Staff.

Surg. 101. Principles of Surgery. (25)

Third year. These lectures are discussions of fundamental surgical problems and a systematic description of general surgical disease. The discussions are designed as introductions to and preparation for detailed reading in standard textbooks, current periodicals, and monographs in surgery.

Surg. 101a. Surgical Specialty Lectures. (42)

Third year. This is a continuation of Surg. 101, wherein the surgical discussions center around the problems of Otorhinolaryngology, Thoracic Surgery, Neurosurgery, Orthopedic Surgery, and Urologic Surgery.

Surg. 103. Outpatient Clerkship in Surgery. (286)

Third year. One-fourth of the third year class is assigned to the Department of Surgery each quarter of the school year. Students are assigned to the Outpatient Department for the examination and supervised care of patients in the General Surgical, Orthopedic, Urologic, and ENT Clinics. One-third of this quarter is spent at Mercy Hospital. Students are assigned in rotation as clinical clerks at night in the Emergency Room.

SUMMER FELLOWSHIPS

Fellowships are available each summer for a period of ten weeks in the Surgical Research Laboratory. Both sophomore and junior students are eligible. Investigative problems related to these services will be undertaken under the guidance of members of the Surgical Staff.

Division of General Surgery

Doctors: Adams, Bongardt, Bowie, Buxton, Cox, Flotte, Govatos, Hubbard, Hull, Mansberger, Ollodart, Pessagno, Scarborough, Siwinski, Stewart, Yeager, and Staff.

Surg. 103a.

This is the student's introduction to an office-type surgical practice in that he undertakes the supervised care of patients in the Surgical Dis-

pensary. General discussions related to problems presented by these patients are given by the Surgical Staff. The introduction to specific surgical techniques in examination and treatment of patients is undertaken. This course is given at both University and Mercy Hospitals. Audio-visual instruction is given. Students are assigned to the Emergency Room during this period.

Surg. 104a.

Senior students are assigned to patients on the surgical wards in the University Hospital. They are responsible for the physical examination, history, and certain laboratory tests as required by the patient's disease. They participate in the active care and treatment of patients.

Division of Neurosurgery

Doctors: ARNOLD, THOMPSON, AND STAFF.

Surg. 104b.

Senior students assigned to this division act in the capacity of student interns. The students are closely integrated with the House Staff and are assigned sufficient patients so that comprehensive experience in the diagnosis and treatment of neurosurgical problems is obtained. Instruction is through ward rounds and informal discussions. Wednesday mornings are devoted to clinical, x-ray, and neuropathological conferences.

Division of Orthopedic Surgery

Doctors: AUSTIN, (HEAD OF DEPARTMENT), TANSEY, WILDER, AND STAFF.

Surg. 103c.

Junior students are assigned to this division in the Outpatient Department at University and Mercy Hospitals. Patients are seen for diagnosis and postoperative care. Instruction is given in the application of plaster casts and in the ambulatory management of orthopedic problems. Occasion is given to instruction in the Physical Therapy of patients with orthopedic disease.

Surg. 104c.

Senior students are assigned patients both on the surgical wards and in the Emergency Room. They participate in the care of these patients, and are given instruction in the application of traction and plaster casts. Frequent ward rounds are held at the Kernan Hospital for Crippled Children, where an Amputee Training Program is active.

Division of Otolaryngology

Doctors: ALDERMAN, BLANCHARD, CROSS, ENGNOTH, NATALE, O'ROURK, AND STAFF.

Mercy Hospital: DRS. SCHWARTZ, GERLACH, ISAACS, AND KAYSER.

Surg. 103e.

In a series of six periods of four hours, in the Outpatient Otolaryngology Clinic, junior students are individually instructed in the techniques of the examination of the ears, nose, and throat. One hour of basic audiological technique is presented to each group by an audiologist, one hour of introductory speech pathology is presented by a speech pathologist.

Surg. 104e.

An advanced period of elective study with emphasis on diagnosis and treatment is available to approximately 18 senior students each year as an alternate elective surgical specialty for one month's duration. In the Outpatient Department, diagnostic problems are presented at conferences with the staff department head twice each week and thoroughly reviewed in the light of current practice. Two sessions each week are available to the student to assist in the operating room and two sessions each week are available in the bronchoesophagology clinic. Each student is responsible for evening emergency calls on Ear, Nose, and Throat and examination of the patients admitted on the service. Daily ward rounds are carried out with the students.

Division of Thoracic Surgery

Doctors: ATTAR, BLAIR, GARLICK, LINBERG, MC LAUGHLIN, MILLER, AND STAFF.

Surg. 104f.

Senior students participate in the care of these patients in the operating rooms and on the wards of University, Mercy and Mt. Wilson Hospitals. In addition, they receive instruction in diagnostic bronchoscopy, esophagoscopy, cardiac catheterization, angiocardiography, and pulmonary function studies.

Division of Urological Surgery

Doctors: YOUNG, CAMPBELL, GALLEHER, MAYS, AND STAFF.

Surg. 103d.

Instruction is given to junior students in this division in the diagnosis of urologic disease of both men and women. The general aspects of instrumentation are discussed and the roentgenologic evidence of urologic disease is emphasized.

Surg. 104d.

Students are assigned patients in the University Hospital wards. Further instruction is given in diagnosis and instrumentation of these patients and in the x-ray diagnosis of urologic disease.

Postgraduate Courses

COMMITTEE ON POSTGRADUATE STUDIES

EPHRAIM T. LISANSKY, M.D., Chairman MRS. ELIZABETH B. CARROLL, Executive Secretary

RAYMOND L. CLEMMENS, M.D. THOMAS B. CONNOR, M.D. VIRGINIA HUFFER, M.D. ARLIE R. MANSBERGER, JR., M.D. WILLIAM S. SPICER, JR., M.D. EDMUND B. MIDDLETON, M.D.

ERLAND NELSON, M.D. HOWARD F. RASKIN, M.D. LEONARD SCHERLIS, M.D. WILLIAM S. STONE, M.D., DEAN, **EX-OFFICIO**

The Postgraduate Committee continues to provide the opportunity for practicing physicians to keep abreast of the newer developments in

the science and practice of medicine.

The following are the major group courses for 1964-1965: Gastroenterology, Neuropathology, Clinical Anatomy, Advances in Medical Science, Practical Dermatology, Obstetrics, Diabetes, Anesthesia, Eye, Ear, Nose and Throat, Surgical Physiology, Hematology, Clinical Cardiology, Obstetrics, and Psychiatry. These courses were all given on the campus. A course in General Medicine was given at Hughesville, Maryland.

At this writing, the program for 1965-1966 has not been formulated definitely, but it is expected that in addition to courses in many of the subjects listed above, there will also be a presentation in Mental Retarda-

tion and one in The Current Aspects of Laboratory Techniques.

Guest Faculty

Joe M. Blumberg, M.D. David Cowen, M.D. Thaddeus S. Danowski, M.D. Kenneth M. Earle, M.D. John K. Frost, M.D. Ali Z. Hameli, M.D. James R. M. Innes, D.V.M.

D. Frank Kaltreider, M.D. Harvey C. Knowles, Jr., M.D. C. Ronald Koons, M.D. Henricus Kuypers, M.D. Richard Lindenberg, M.D. G. Allen Moulton, M.D. Charles Van Buskirk, M.D.

University of Maryland Faculty

Thurston R. Adams, M.D. Edward Adelson George C. Alderman, M.D.

James G. Arnold, M.D. Raymond M. Atkins, M.D. Safu Attar, M.D.

Margaret Ballard, M.D. Eugene S. Bereston, M.D. Samuel P. Bessman, M.D. Cyrus L. Blanchard, M.D. Francis J. Borges, M.D. Harry C. Bowie, M.D. Otto C. Brantigan, M.D. Harold H. Bryant, Ph.D. Raymond M. Burgison, Ph.D. Robert W. Buxton, M.D. C. Jelleff Carr, Ph.D. Thomas B. Connor, M.D. R. Adams Cowley, M.D. Everard F. Cox, M.D. Donald Dembo, M.D. John M. Dennis, M.D. Everett S. Diggs, M.D. Ford Ebner, Fellow F. A. Ellis, M.D. Milton L. Engnoth, M.D. L. Whiting Farinholt, L.L.M. Harlan I. Firminger, M.D. Dino E. Flores, M.D. Thomas C. Flotte, M.D. Samuel L. Fox, M.D. C. Barton Galloway, M.D. Thomas A. Good, M.D. Sheldon E. Greisman, M.D. Milton S. Grossman, M.D. Louis E. Harman, M.D. Arthur L. Haskins, M.D. John B. Hearn, F.F.R. Thomas R. Hendrix Ray Hepner, M.D. Rouben Jiji, M.D. Arthur F. Jones Theodore E. Kardash, M.D. James King, Sr. M.D. Christian R. Klimt, M.D. Louis A. M. Krause, M.D. Julius Krevans, M.D. Eugene J. Linberg, M.D. Elmer G. Linhardt, M.D. Ephraim T. Lisansky, M.D. Richard L. London, M.D. James A. Lyon, Jr., M.D. Arlie R. Mansberger, Jr., M.D. Patricia McIntyre Alfred Meisels, M.D. Albert I. Mendeloff, M.D. Jerome Merlis, M.D.

Edmund B. Middleton, M.D. Keith C. Morgan, M.D. Erica Moszkowski, M.D. Richard S. Munford, M.D. Ralph D. Natale, M.D. Walle J. H. Nauta Erland Nelson, M.D. Robert M. Ollodart, M.D. Ross Z. Pierpont, M.D. Howard F. Raskin, M.D. Joan Raskin, M.D. Dee Rasmussen, M.D. Peter Rasmussen, M.D. Herbert Reifschneider, M.D. Richard D. Richards, M.D. Harry M. Robinson, Jr., M.D. R. C. Vail Robinson, M.D. Robert S. Rozman, Ph.D. Frieda Rudo, Ph.D. George Santos, M.D. Leonard Scherlis, M.D. Adalbert F. Schubart, M.D. Robert B. Schultz, M.D. Marvin M. Schuster, M.D. Arthur Serpick William B. Settle, M.D. Pedro A. Sevidal, Jr., M.D. Albert Shapiro, M.D. Charles E. Shaw, M.D. Isadore A. Siegel, M.D. Robert T. Singleton, M.D. Aubrey C. Smoot, M.D. Carroll L. Spurling, M.D. Patrick B. Storey, M.D. M. Wilson Toll, M.D.C.M. Edward B. Truitt, Ph.D. M. Eugene Tudino, M.D. George E. Urban, Jr., M.D. O. P. VanBijsterveld, M.D. Umberto Villa Santa, M.D. Gerald W. Wagger, M.D. John A. Wagner, M.D. Stuart H. Walker, M.D. W. Wallace Walker, M.D. Earl M. Wilder, M.D. Howard M. Wisotzkey, M.D. John G. Wiswell, M.D. Celeste L. Woodward, M.D. Joseph B. Workman, M.D. Stanley N. Yaffe, M.D. John D. Young, M.D.

Matriculants

FIRST YEAR

Class of 1968

Undergraduate School

Name Allison, Samuel Bertram, A.B. Amoss, Willard Pitzer, A.B. Baum, Richard Alan, A.B. Beach, Roger Aldworth, B.S. Beamon, Charles Ralph, Jr., A.B. Bearman, Sheldon Barry, A.B. Berman, Ethel Ann, A.B. Blumberg, Morton Barry, A.B. Bowen, Bruce James, B.S. Britton, Robert Mark, B.S. Brull, Robert, B.S. Buddington, Richard Spencer, A.B. Duke University, 1964 Caldwell, John Leo Callaghan, Joseph Francis, Jr., B.S. Boston College, 1964 Caplan, Ellis Sanford, B.S. Cherry, Joel Mayer, B.S. Clopper, Todd Dalton, A.B. Coffeen, Thomas William, A.B. Cohen, Elliot Sanford, B.S. Colligan, Franklyn William, B.S. Crosse, St. George Idris B., B.S. Davidov, Howard Allen, A.B. Deaver, David LeRoy, A.B. Deegan, Michael John, B.S. Egloff, Allen Clark, A.B. Fausel, Robert Wilton, Jr. Feldman, Gerald Barry B.S. Franklin, Frank Anthony, Jr., B.S. Yale University, 1964 Friedman, Howard Ronald, A.B. Frizzera, John Gordon, B.S. Gambrill, Raymond, III, B.S. Gehlert, Sidney Richard, III, B.S. Loyola College, 1964 Gelin, John deCourtenay, A.B. Gelman, Stuart Irwin, B.S. Glick, Ronald Sheldon Goldstein, William Neal, A.B. Green, Gerald Ira, B.S. Groover, Jack Richard, B.S. Handwerger, Barry Sheldon Harris, Roger Clark, A.B.

Swarthmore College, 1964 Western Maryland College, 1964 Brown University, 1964 University of Maryland, 1964 Johns Hopkins University, 1963 University of Pennsylvania, 1964 Maryland Wheaton College, 1964 University of Maryland, 1962 Trinity College, 1964 University of Maryland, 1964 University of Maryland, 1961 Mt. St. Mary's College University of Maryland, 1964 George Washington Univ., 1963 Franklin & Marshall College, 1964 New Jersey Johns Hopkins University, 1964 University of Maryland, 1964 University of Maryland, 1962 Maryland State College, 1964 Western Maryland College, 1963 Johns Hopkins University, 1964 St. Joseph's College, 1964 Grinnell College, 1964 University of Maryland University of Maryland, 1963 Yeshiva College, 1964 University of Maryland, 1964 University of Maryland, 1964 Johns Hopkins University, 1964 Fairleigh Dickinson College, 1964 University of Maryland Oberlin College, 1964 University of Maryland, 1964 University of Georgia, 1964 Johns Hopkins University University of Maryland, 1961

Home State Delaware Maryland Maryland Maryland Virginia New Jersey Maryland Maryland Maryland Marvland Marvland Maryland Massachusetts Maryland Maryland New York Maryland Maryland Maryland Maryland Maryland New Jersey D. C. Maryland Maryland New Jersev Maryland Maryland Maryland Maryland Delaware New Jersey Maryland Maryland Maryland Maryland Maryland Maryland

Name	Undergraduate School	Home State
Hayes, Albert Jerome, Jr., B.S.	Morgan State College, 1958	Maryland
Herman. Melvin Herbert, Jr., B.S.		Maryland
Hess. Douglas Boone	Gettyshurg College,	Pennsylvania
Hewing. Alvin Nones, III, B.S.	University of Maryland, 1964	Maryland
Hooper. Stephen LeRoy, A.B.	University of Pennsylvania, 1963	Maryland
Horowitz, Irvin Robert, B.S.	University of Maryland, 1964	Maryland
Hubka, Ronald Richard, A.B.	University of Maryland, 1964	Maryland
Evers, Kathryn Hussey, A.B.	Trinity College, 1964	Massachusetts
Hyman. George Frederic, B.S.	Union College, 1964	New York
Kane. James Gregory, Jr., B.S.	Loyola College, 1964	Maryland
Kaplan. William Douglas, B.S.	University of Maryland, 1960	Maryland
Keech, Richard Charles, B.S.	Johns Hopkins University, 1964	Maryland
Keegan, Kirk Arlington, Jr., B.S.	The Citadel, 1964	Massachusetts
Knefely, George McLanahan, Jr.,	Western Maryland College, 1964	
A.B.	estern marytana Conege, 1907	171ai yiana
Knowles, Frederick Edwin, A.B.	Harvard College, 1964	Maryland
Koski, Carol Lee, B.S.	Goucher College, 1964	Maryland
Lancelotta, Charles Joseph, Jr.,	Loyola College, 1964	Maryland
A.B.		
Lazarus, Barry Alan, A.B.	Western Maryland College, 1964	Maryland
Lefkov. Phyllis Diane, B.S.	University of Maryland, 1964	Maryland
Legum, Ronald Michael, A.B.	University of Maryland, 1964	Maryland
Levin, Gordon Leonard, B.S.	University of Maryland, 1964	Maryland
Litt. Abraham Abba, B.S.	University of Maryland, 1964	Maryland
Little, Raymond Roger, B.S.	University of Maryland, 1964	Maryland
Littman, Philip, A.B.	Stanford University, 1962	Maryland
Long, William Broughton, III, B.S		Maryland
McGuire, Terence Aloysius, B.S.	Georgetown University, 1964	Maryland
McNinch, Eugene Robinson, Jr., A.B.	Swarthmore College, 1964	Delaware
Mahoney, Carroll Davis, B.S.	University of Manuford 1064	Maruland
Malinow, Stanford Howard, B.S.	University of Maryland, 1964 University of Maryland, 1964	Maryland Maryland
Manekin. Steven Frederick. B.S.	University of Maryland, 1963	Maryland
Mech. Karl Frederick, Jr., A.B.	Wesleyan University, 1964	Maryland
Mendelsohn Herhert Fugene A B	Western Maryland College, 1964	Maryland
Merlis, Anthony Logan, A.B.	Johns Hopkins University, 1964	Maryland
Mikesell, Kathryn Ann, A.B.	University of California, 1964	D. C.
Miller. Bruce Lawrence, A.B.	Western Maryland College, 1964	Maryland Maryland
Mitchell, Charles Robert, B.M.E.		Florida
Morton, Bert Frederick, A.B.	Western Reserve University, 1963	
Mullis, Oscar Lee, Jr., A.B.	Elon College, 1962	N. Carolina
Nordgren, Allan Curtis, B.S	Massachusetts Inst. of Tech., 1963	Kansas
Pastis, William K., B.S.	Howard University, 1963	Maryland
Pattee, Burton Charles, B.S.	Antioch College, 1964	Iowa
Pearson. Frederick Norman, A.B.		Connecticut
Pollard, John David, Jr., A.B.	Syracuse University, 1964	Maryland
Pototsky, Ronald Stephen, A.B.	Johns Hopkins University, 1964	Maryland
Quillen, Carl Gray, A.B.	Lafayette College, 1964	New Jersey
Rankin, Thomas Vincent, B.S. Reed, William Arno, B.S.	Loyola College, 1964 University of Maryland, 1964	Maryland D. C.
Reinstein, Leon, B.S.	University of Maryland, 1964 University of Maryland, 1964	Maryland
Renbaum, Joel William, A.B.	Johns Hopkins University, 1964	Maryland
Timain, 71.D.	Johns Hopkins Oniversity, 1904	1.1ar j land

Name	Undergraduate School	Home State
Riddlesberger, Merchline Mills,	Dickinson College, 1964	Pennsylvania
Jr., B.S. Riley, David Joseph, A.B.	Johns Hopkins University, 1964	Maryland
Rimash, Rorick Theodore, A.B.	Johns Hopkins University, 1964	New York
Rivera-Reyes, Luis Raphael, B.S.	University of Puerto Rico, 1964	Puerto Rico
Roihl, Norbert Henry, A.B.	Cornell University, 1964	New York
Rosenbaum, Stephen David, A.B.	Western Maryland College, 1964	Maryland
Rosensteel, Robert Joseph, Jr., B.S.	Loyola College, 1964	Maryland
Rosenstock, Jeffrey Gallant, A.B.	Columbia College, 1964	Pennsylvania
Samorodin, Charles Steven	University of Maryland	Maryland
Schaefer, Walter Charles	University of Maryland	Maryland
Schlossberg, Barry Joel, A.B.	Johns Hopkins University, 1964	Maryland
Schonfeld, Burt Gary, A.B.	Johns Hopkins University, 1964	Maryland
Semins, Howard, A.B.	Washington and Jefferson	Pennsylvania
Charle Michael Yeles	College, 1964 Randolph-Macon College, 1964	Maryland
Shack, Michael John Shaw, John Marx	Union College, 1964	New Jersey
Spielman, Stuart Henry, A.B.	Columbia University, 1964	New York
Stafford, John Davis, A.B.	San Jose State College, 1963	California
Staufer, Wilfred Bryan	University of Maryland,	Maryland
Stuart, Franklin Richard, Jr.	University of Utah,	Maryland
Stuppler, Stephen Allen, B.S.	University of Maryland, 1964	Maryland
Tannenbaum, Alice Susan, B.S.	University of Maryland, 1964	Maryland
Turner, Elizabeth Anne, B.S., M.S.	Maryville Col. 1958; Drexel Inst of Tech., 1959	.Maryland
Vergne-Marini, Pedro Juan, B.S.	University of Puerto Rico, 1964	Puerto Rico
Volcjak, Edward Eugene, B.S.	University of Maryland, 1963	Maryland
Wambaugh, George Wilmar, Jr.,	Loyola College, 1964	Maryland
B.S.		
Weimer, Stanley Robert, B.S.	Pennsylvania State University, 1964	Maryland
Welsh, James Joseph, Jr., B.S.	Univ. of Md.—Pharmacy, 1963	Maryland
Whitworth, Michael Franklin, A.B		Maryland
Widmeyer, Robert Samuel, II	University of Maryland,	Maryland
Williams, Randall Burdg	Earlham College,	Maryland
Williams, William Morgan, B.S.	University of Maryland,	Maryland
Willis, Eugene, Jr.	Western Maryland College,	Maryland
Winakur, Stuart, B.S.	Univ. of Md.—Pharmacy, 1963	Maryland Illinois
Winter, Stephen Lee, A.B. Woodrow, Kenneth M., A.B.	University of Chicago, 1964 Wesleyan University, 1964	New York
Young, Edward John, A.B., M.S.	Columbia Univ. 1959; Georgetown	
Toung, Luwaiu John, A.B., W.S.	Univ. 1963	rivial ylallu
Zavis, Daniel Ihor, A.B.	Johns Hopkins University, 1964	Maryland

SECOND YEAR

Class of 1967

Name	Undergraduate School	Home State
Abel, Elizabeth Ann, B.S.	Colby Junior College, 1961	Maryland
Alperstein, Joel Barry, B.S.	University of Maryland, 1961	Maryland
Adalman, Stephen Morris, B.S.	University of New York, 1963	New York

Avelevra, Enrique F., B.S. Banfield, Wm. John, B.S. Benenson, Michael Wm., A.B. Bigbee, John Albert, B.S. Blondin, Sandra Lee, B.S. Bloom, Wm. Frank, A.B. Blum, Barry Alan, A.B. Bollinger, Mary Sue, A.B. Boddie. Wm. Leon, B.S. Bright, Donald St., A.B. Burka, Barret Lewis, B.S. Butchart, John C., B.S. Carter, Colvin Cecil, B.S., M.S.

Cohen, Edward Ralph, B.S. Crothers, Omar D., III. A.B. DeFelice, Charles E., B.S. Dobrzycki, Gerard D., B.S. Drake, Frances Dalton, B.S. Dunsford, Harold A., B.S. Dyro, Frances Mary, B.S. Eagle, Perry Alan, B.S. Earles, Gordon Homer Emory, Thomas E., A.B. Feldman, Harris J., A.B. Feldman, Larry Brian, A.B. Feuer, Henry, Fetterhoff, Ira Lincoln, A.B. Fine, Eric Michael, B.S. France, Robert Orville, A.B. Freed, Martin Irwin, A.B. Fulton, Edwin Cockey, B.S. Gareis, John Wm., Gimbel, Joseph Samuel, A.B. Glushakow, Allen Stanley, B.S. Goffman. Joel Henry, B.S. Hadden, David Malcolm, A.B. Hamby, James Lawrence, B.S. Hertzog, Robert Wm., B.S. Hobelman, Frederick H., A.B. Hoffman, Arthur Michael, B.S. Hricko, George Medard B.S. Hughes, Arthur Lee, B.S. Ignatowski, John Stephen, B.S. Jackson, Beverly Estelle, Jackson, Jean Marlene, B.S. Jones, Philip Dickson, A.B. Jordan, Charles Edward, III, A.B. Kaliner, Michael Aron B.S. Kandel Elizabeth Earle, A.B. Kester, Eugene Francis, A.B. Konrad, James Gerard, B.S. Kraemer, Elihu Mark. B.S.

Undergraduate School University of Maryland, 1963 Holy Cross College, 1963 Cornell University, 1963 University of Maryland, 1963 Dickinson College, 1963 Univ. of North Carolina, 1963 University of Maryland, 1963 Immaculata College, 1962 Howard University, 1963 Princeton University, 1963 American University, 1963 Univ. of California, 1963 Howard University, 1959; Elizabethtown, 1963 University of Maryland, 1963 Princeton University, 1963 University of Maryland, 1962 University of Maryland, 1957 Virginia Military Institute, 1963 Dickinson College, 1963 Massachusetts Inst. of Tech., 1963 Maine University of Maryland, 1963 University of Maryland Johns Hopkins University, 1962 Western Maryland College, 1963 Johns Hopkins University, 1963 University of Maryland, Carroll College, 1951 George Washington Univ., 1964 Franklin & Marshall College, 1964 Maryland George Washington Univ., 1963 Eastern Michigan Univ., 1963 University of Maryland, University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 Stanford University, 1957 University of Maryland, 1963 Morgan State College, 1963 University of Maryland, 1963 University of Maryland, 1963 Loyola College, 1961 Johns Hopkins University, 1961 University of Maryland, 1963 Morgan State College, Univ. of Rhode Island, 1963 Princeton University, 1963 Cornell University, 1963 University of Maryland, 1963 Goucher College, 1963 New York University, 1963 University of Maryland, 1962

Union College, 1963

Home State D. C. Maryland New York Maryland Maryland Maryland Maryland Maryland Maryland Maryland D. C. Hawaii Maryland

Maryland Maryland Maryland Maryland Maryland Connecticut Maryland California Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland Rhode Island Maryland Maryland Maryland Maryland Maryland Maryland New Jersey

Kulik, Frank Albert, B.S. Lapes, George Anthony, B.S. Lattin, Gary Marc, A.B. Lee, Michael Morgan, A.B. Lessans, Stuart Harvey, A.B. Lichtenstein, Jack Ruben, Litle, Gary Scott, A.B. Mack, Richard Henry, B.S. Markowitz, Sheldon L., A.B. McCaffrey, Robert James, B.S. McHold, David Stanley, A.B. McIntyre, John Milton, B.S. Metz, Joseph Francis, III, A.B. Miller, Louis Winaker, B.S. Mitnick, Alan Harvey, B.S. Myers, Boyd Douglas, A.B. Nelson, Fred Ritchie, A.B. Norman, Janet Hull, B.S. Norwood, Thomas Hyatt, A.B. Novicki, Donald Edward, B.S. O'Donnell, Thomas J., A.B. Oliver, Lawrence Stuart, A.A., A.B.

Orlando, Joseph C., B.S.
Ostroff, Edward B., B.S.
Palmisano, Frank S., B.S.
Paritzky, Arnold Z., A.B.
Pelovitz, Howard Leon, B.S.
Pfeffer, Bruce William, A.B.
Pohost, Gerald M., B.S.
Posner, Carol Jean, A.B.
Pristoop, Allan Sanford, B.S.
Raikes, Merrill C., III, A.B.
Reymond, Ralph Daniel, A.B.-M.A.

Rogers, John Francis, A.B. Rosen, Howard Roy, B.S. Routenberg, John Albert, B.S. Rowell, John Russell, Jr., B.S. Sachs, Marvin Coleman, B.S. Samuels, Jeffrey Allan, A.B. Sansone, Peter Frank, A.B. Schilling, Lee Howard, A.B. Seligman, Myron Lee, A.B. Sewell, John Calvert, B.S. Sherman, Michael Lewis, A.B. Sherr, Howard Paul, B.S. Shuster, Harold Frederick, B.S. Skloven, Zellman David, A.B. Smith, John James, III, B.S. Snyder, David Michael, B.S. Sofferman, Robert Alan, A.B. Stapen, Joseph Ira, B.S.

Columbia University, 1960 University of Maryland, 1962 Johns Hopkins University, 1963 Ohio Wesleyan University, 1963 Johns Hopkins University, 1963 University of Maryland, Temple University, 1961 University of Notre Dame, 1963 Washington University, 1963 University of Rochester, 1962 Morehead State College, 1962 University of Maryland, 1963 Loyola College, 1964 University of Maryland, 1963 University of Maryland, 1963 Western Maryland College, 1963

Undergraduate School

Johns Hopkins University, 1962 Wheaton College, 1959 Brown University, 1960 Mt. St. Mary's College, 1963 Johns Hopkins University, 1963 George Washington University, 1961, 1963

Loyola College, 1962
Washington & Lee Univ., 1963
Loyola College, 1962
Johns Hopkins University, 1963
University of Maryland, 1963
Georgetown University, 1963
George Washington Univ., 1963
Swarthmore College, 1963
University of Maryland, 1963
Colby College, 1963
Johns Hopkins University,

1959, 1963 Johns Hopkins University, 1963 Dickinson College, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 Johns Hopkins University, 1963 University of Pennsylvania, 1963 San Diego State College, 1961 Johns Hopkins University, 1964 University of Maryland, 1963 Duke University, 1963 College of the Holy Cross, 1963 Stevens Inst. of Tech., 1954 Cornell University, 1963 University of Maryland, 1963 Georgetown University, 1963 Lehigh University, 1963 University of Maryland, 1963

Home State
Maryland

D. C.
Maryland
Maryland
Maryland
Maryland
New Jersey
Ohio
Maryland

Maryland New York Maryland Maryland

Maryland
Maryland
Maryland
Maryland
Pennsylvania
Maryland
Maryland
Maryland
Maryland
Maryland
Maryland

Maryland Maryland Maryland Maryland Maryland Maryland Rhode Island Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland D.C. New Jersey

New York

Stern, Kenneth Bernard, B.S.
Strawn, Steven Rogers. A.B.
Sussman, Michael David, A.B.
Tierney, Lawrence M., A.B.
Valigorsky, John Michael, B.S.
Vogel, Donald Bruce, B.S.
Wardlaw, Stephen Clark,
Warner, Larry Joseph, B.S.
Wendt, Charles Edw. Jr., B.S.
Wexler, Alan Michael, B.S.
Wilner, Gary Norman, B.S.
Wolf, Alan Frederick, B.S.
Yakaitis, Ronald Wm., B.S.
Zorick Frank John, B.S.

Undergraduate School University of Maryland, 1963 Miami University, 1963 Washington & Lee Univ., 1963 Yale University, 1963 University of Maryland, 1963 University of Maryland, 1962 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1961 University of Maryland, 1963 Loyola College, 1963 University of Maryland, 1963

Home State
Maryland
California
Maryland
Connecticut
Pennsylvania
Maryland
Maryland
Maryland
South Carolina
Maryland

THIRD YEAR

Class of 1966

Name Abramowitz, Leslie, B.A. Acker, Diane K., A.B. Arnold, James Edward, B.S. Bard, Richard Henry, A.B. Baron, Robert Bruce, A.B. Barrash, Jav Martin, B.S. Blaustein, Arnold Saul, A.B. Bosley, William Robert, A.B. Braunohler, Walter M., A.B. Brotman, Sheldon Irving, A.B. Brous, Philip Panos, A.B. Brown, Mark Jeffrey, A.B. Bruther, William F., B.S. M.S. Bruther, William F., B.S.

Buchness, Michael P., B.S. Burnham, Harold Arthur, B.S., M.A. Carty, James Walker, A.B. Clarke, Dana Harry, B.A. Classen, Charles Henry, B.S. Cohen, Arthur, B.S. Cohen, Ora Richard, B.S. Collins, Hammond Chas., B.S. Cook, David Michael, B.S. Cost, Francis Howard, A.B. Costleigh, Robert Platt, B.S. Crist, Henry Spera, B.S. Cushing, Jane Frances, A.B. Daw, Albert Lee, A.B. Dvoskin, Philip Bryan, B.S. Ellis, Michael Anthony, B.S. Ertag, William David, A.B.

Undergraduate School
George Washington Univ., 1962
Barnard College, 1962
Parson's College, 1962
Washington University, 1962
Johns Hopkins University, 1963
Johns Hopkins University, 1962
Johns Hopkins University, 1962
Johns Hopkins University, 1962
Johns Hopkins University, 1962
Gettysburg College, 1962
Cornell University, 1962
Bucknell University, 1962
Univ. of Wisconsin, 1952, 1954

Mt. St. Mary's College, 1961 Loyola College, 1962 Union College, 1951; Middlebury College, 1952 Washington & Lee Univ., 1962 Univ. of Massachusetts, 1962 Trinity College, 1962 University of Maryland, 1962 University of Maryland, 1962 Boston College, 1961 Ohio University, 1962 Gettysburg College, 1962 University of Oregon, 1962 Dickinson College, 1962 Cornell University, 1962 University of Virginia, 1957 University of Maryland, 1962 Loyola College, 1961 Johns Hopkins University, 1962 Home State
Maryland
New York
Maryland

Maryland Maryland New York

Maryland
Massachusetts
Pennsylvania
Maryland
Maryland
Massachusetts
West Virginia
Oregon
Pennsylvania
Maryland
D. C.
Maryland
Maryland
Maryland
Maryland
Maryland
New Jersey

Fine, Stuart Lee, A.B. Flax, Richard Leroy, B.S. Fleming, Gary Allan, B.S. Fortier, Dwight Norbert, A.B. France, Joseph Martin, B.S. Gallahorn, George Edward, B.S. Gattis, Bruce Wayne, B.S. Gerber, Saul Bruce, B.S. Glass, Richard S., B.S. Gertsen, Kenneth C., A.B. Goldberg, Marshall C., A.B. Golladay, Donald E., B.S. Gombart, Augustin Karl, B.S. Gordon, Dennis Harvey Gordon, Stephen Frank, B.S. Gracia-Culpeper, Jose R., B.S. Green, John Gary, B.S. Grenzer, Louis E., A.B. Griffin, Dean Harp, M.S. Hameroff, Stephen Barry, B.S. Haney, Michael Joe, B.S. Hanson, Irvin Rivers, B.S. Harrison, Wm. Orville, A.B. Hawkins, James M., Jr., A.B. Hill, Thomas M., B.S. Hosick, Elizabeth C., A.B. Houston, John Joseph, B.S. Ingle, Larry Travis, A.B. Johnson, Franklin L., B.S. Kiracofe, Harry Louden, A.B. Koenig, Ronald Howard, A.B. Knowles, Raymond E., Jr., A.B. Koskinen, Kenneth Ralph, A.B. Krackow, Joe Arnold, A.B. Kramer, Lloyd Irvin, B.S. Leibowitz, Robert E., B.S. Long, Elmer Charles, B.S. Machiz, Stephen, A.B. Mann, John Hatch, A.B. Marcus, Joseph Baer, B.S. Marek, William James, B.S. Mason, William Terry, A.B. Mattsson, Carl Anthony, B.S. Miller, Albert Truman, B.S. Monfried, Allan Jerome, A.B. Music, Stanley Irvin, A.A., B.S.

Oldroyd, John Jay, A.B. Ominsky, Barry E. L., B.S. Orfuss, Carl Joseph, B.S. Patrick, George Stanley, A.B. Plotnick, Gary David, A.B. Press, Samuel Eanet, B.S.

Undergraduate School University of Maryland, 1962 University of Maryland, 1962 Franklin & Marshall College, 1957 Maryland University of Maryland, 1962 Lovola College, 1962 Georgetown University, 1962 University of New Mexico, 1962 University of Maryland, 1962 University of Maryland, 1962 Johns Hopkins University, 1962 Johns Hopkins University, 1962 University of Maryland, 1962 University of Maryland, 1962 Utah State University, 1961 George Washington Univ., 1962 University of Puerto Rico, 1962 Loyola College, 1961 Duke University, 1962 American University, 1961 University of Maryland, 1962 University of Maryland, 1962 Wake Forest College, 1961 Stanford University, 1961 University of Maryland, 1960 Georgetown University, 1962 Grinnell College, 1962 Georgetown University, 1962 University of Maryland, 1962 University of Maryland, 1962 Princeton University, 1960 Johns Hopkins University, 1962 Johns Hopkins University, 1962 Franklin & Marshall College, 1962 Maryland Lehigh University, 1962 University of Maryland, 1962 Dickinson College, 1962 Kutztown College, 1960 University of Maryland, 1962 Yale University, 1961 University of Maryland, 1962 University of Maryland, 1960 Western Reserve University, 1962 University of Utah, 1962 Eastern Mennonite College, 1962 Duke University, 1962 George Washington Univ., 1961, 1962 University of Utah, 1961 University of Maryland, 1962 University of Maryland, 1962 West Virginia University, 1960

Johns Hopkins University, 1962

University of Maryland, 1962

Home State Maryland Utah New Jersev Puerto Rico Maryland Maryland Maryland Maryland Maryland Maryland Oregon Maryland New York Michigan Maryland Maryland Maryland Maryland Maryland Maryland Ohio Pennsylvania New Jersey Maryland Maryland New Jersey Maryland Maryland Ohio Utah Maryland Maryland Maryland Utah Maryland

Maryland

Maryland

Maryland

W. Virginia

Price, Charles Downey, A.B. Ouinlan, James A., Jr., B.S. Raine, Dudley Allen, Jr., B.S. Rawlings, Nina Cole, B.S. Reed, Richard Henry, B.S. Rivera-Rivera, Ernesto, B.S. Rokoff, Michael Jay, A.B. Schoen, Alan Elias, A.B. Schwartz. David Solomon, A.B. Serritella, Alfred A., B.S. Shuger, Richard David, B.S. Siple, Donald Joel, B.S. Sligar, Kurt Porter, B.A. Sopher, Irvin Murray, D.D.S. Spence James Wilson, B.S. Steers, John Edward, B.E.S. Steinbauer, David Jerome, D.V.M. Univ. of Georgia-V. M., 1961 Stier. Jeffrey Stephen, B.S. Stern, Jack Irwin, B.A. Stram, Robert Alfonse, B.S. Susel. Richard Malcolm, B.S. Susel, Carolyn Joan (Pass), B.S. Swan, Beresford Mark, B.S. Trattler. Henry Leonard, B.S. Wittman, Stephen John, B.S. Young, Robert Runvan, A.B. Yuspa, Stuart Howard, A.B. Zalewski. Andrew Anthony, B.S. Zimmerly, James Gregory, A.B. Zucker, Sandra Lee,

Undergraduate School

Western Maryland College, 1962 University of Maryland, 1962 Hampden-Sydney College, 1962 Morgan State College, 1957 University of Maryland, 1962 University of Puerto Rico, 1962 Johns Hopkins University, 1962 Western Reserve University, 1960 Western Maryland College, 1961 University of Illinois, 1958 University of Maryland, 1962 University of Maryland, 1963 Whitman College, 1962 University of Maryland, 1962 University of Maryland, 1962 Johns Hopkins University, 1956 Bethany College, 1962 University of Vermont, 1962 University of Maryland, 1962 University of Maryland, 1962 University of Maryland, 1962 Morgan State College, 1962 University of Maryland, 1962 University of Maryland, 1962 Washington University, 1962 Jonhs Hopkins University, 1962 University of Maryland, 1962 Gannon College, 1962 University of Md., Nursing

Home State

Maryland Maryland Maryland Maryland Maryland Puerto Rico Maryland Maryland Maryland Maryland Maryland Maryland Washington Maryland Maryland Pennsylvania Maryland New York Connecticut Massachusetts Maryland Maryland Bermuda Maryland Maryland Missouri Maryland Maryland Pennsylvania Maryland

FOURTH YEAR

Class of 1965

Name

Aaronson, Jeffrey D., A.B. Agus, Zelman S., A.B. Albertsen, Verner Axley. John Harold, Jr., B.S. Baldwin, Brian Jay, A.B. Benfield, Donald Gary, B.S. Blum, Stanley Leonard, A.B. Brian Bruce Allen A.B. Brown, Charles Sidney, A.B. Brown, Harry James, B.S. Brown, Jeffrey Lee, A.B. Bruce, Wm. Gregory, A.B. Choate, Wm. Harold, B.S. Chong, Lap Chong, A.B. Cimonetti, Thos. Curran, A.B. Cley, Brenda M., A.B. Collins, Chester Cattell, Jr., B.S. Coplin, Michael N., A.B.

Undergraduate School Johns Hopkins University, 1961 Johns Hopkins University, 1961 Howard University. University of Maryland, 1961 George Washington Univ., 1960 University of Maryland, 1959 Lafayette College, 1961 William College, 1961 Yale University, 1957 University of Maryland, 1959 Hobart College, 1961 Transvlvania College, 1960 University of Maryland, 1959 Johns Hopkins University, 1960 St. Michael's Monastery, 1952 Fisk University, 1961 University of Maryland, 1960 Univ. of Pennsylvania, 1960

Home State Maryland Illinois Denmark Wisconsin New York N. Carolina Maryland Maryland Missouri Maryland New York D. C. Maryland Hong Kong Massachusetts Maryland New Jersey New Jersey

Dick, Arthur Roland, A.B., M.S.

Dougherty, Patrick F., Jr., B.S. du Buy, Jean Bernard, A.B. Dumler, John Chas., Jr., B.S. Ehrlich, Gary Lee, B.S. Engelke, Geo. Edmund, B.S. Fesche, Paul Hudson, B.S. Fine, Louis Loeb, A.B. Friedler, Stanley, B.S. Frey, Allen Arthur, A.B. Gillis, David Jos., B.S. Goldner, Ronald, B.S. Goldsmith, Stanley, B.S. Gould, Wm. Michael, III, B.S. Gray, Timothy Kenney, B.S. Handwerger, Robert Louis Harris, David Robert, A.B. Harrison, Charles Simeon, A.B. Herold, Fred. Stephen, B.S. Highstein, Stephen Morris, A.B. Himelfarb, Terren M. B.S. Hisley, John Chas., A.B. Hoffman, Edw. Stewart, A.B. Howard, Susan L. Johnson, Barbara Lou B.S. Jones, Calvin Edw., B.S. Judman, Allen H., B.S. Kandler, Paul Alfred, A.B. Kistler, Galen Henry, B.S. Land, Allan Stephen, A.B. Landau, Earl Kaufman, A.B. Legat, Susan Traum, A.B. Legat, Wm. Edward, A.B. Levin, Sanford Leslie, A.B. Lewis, Frank Russell, Jr., A.B. Margolis Jay Stephen, A.B. Maun, John Wm., B.S. Mendez-Bryan, Carlos R.

Olsen, Louis Odin, B.S. Olson, Janne Robert, B.S. Pelczar Michael Eugene, A.B. Peters, George, B.S. Poiley, Jeffrey Edward, A.B. Reilly, Michael John, B.S. Roane, Donald Cornelius, B.S. Robinson, Emily Ann, A.B. Rosenstein, Alfred Barry, A.B. Saiontz, Henry Allan, A.B. Sattenspiel, Sigmund L., B.S. Schwartz, Martin Samuel B.S.

Undergraduate School

Bethel Coll., 1955; University of Wichita, 1958 Mt. St. Mary's College, 1961 Johns Hopkins University, 1961 Washington & Lee Univ., 1961 Dickinson College, 1961 Georgetown University, 1960 University of Maryland, 1960 Cornell University, 1961 University of Maryland, 1961 Johns Hopkins University, 1961 Loyola College, 1960 University of Maryland, 1960 Michigan State, 1961 Duke University, 1961 Loyola College, 1961 University of Maryland, 1961 University of California, 1960 Kent State University, 1958 Johns Hopkins University, 1961 Rensselaer, 1961 University of Maryland, 1961 Washington & Lee University University of Rochester, 1961 University of Maryland George Washington Univ., 1961 University of Maryland, 1961 University of Maryland, 1960 Johns Hopkins University, 1961 Muhlenberg, 1961 Johns Hopkins University, 1960 George Washington Univ., 1961 University of Maryland, 1961 Yale University, 1961 Johns Hopkins University, 1961 Princeton, 1961 Western Maryland College, 1960 Washington College, 1961 University of Puerto Rico, 1961 Mueller, John George, A.B., D.D.S. Duke Univ., 1953; Univ. of Md.-

Dental School, 1957 University of Maryland, 1961 Loyola College, 1961 Lovola College, 1960 Stevens Inst. of Technology, 1954 Johns Hopkins University, 1961 University of Maryland, 1960 Howard University, 1961 Vassar College, 1961 Western Maryland College, 1961 Johns Hopkins University, 1961 University of Wisconsin University of Maryland, 1961

Home State Canada

Maryland Maryland Maryland Maryland New Jersey Maryland Maryland Maryland New York City Maryland Maryland Maryland Maryland Maryland Maryland California Arkansas New York Maryland Maryland Maryland New York Maryland D. C Maryland Maryland New York Pennsylvania Maryland D. C. Illinois New Jersey Maryland

Maryland W. Virginia Puerto Rico Oklahoma

Maryland Wisconsin Maryland New York Maryland Maryland Maryland Maryland Maryland Maryland New York Maryland

122 Matriculants

Name
Segal, Hannah Joan, B.S.
Shope, Earl Samuel, A.B.
Signor, Wm. Edson, B.S.

Signor, Wm. Edson, B.S.
Sjolund, Geo. Clarence, Jr., A.B.
Shyder, Larry Albert, B.S.
Stasiowski, M. Peter, B.S.
Steiffy, John Miller, A.B.
Stein Harry Calvin, B.S.
Steinberg, Louis Edw., B.S.
Sugar, Fred Nelson, B.S.
Tabor, Harry David, A.B.
Tokar, Elliot S., B.S.
Toskes, Philip Paul, A.B.
Virgilio, Richard Wm., A.B.
Weinstock, Joseph Saul, A.B.
Whelan, Philip Joseph, B.S.
White, Daniel H., B.S.

University of Maryland
University of Maryland
Johns Hopkins University
Colgate, 1961
University of Maryland
University of Maryland
George Washington U
St. Mary's College, 19

Whitelock, Victoria P., B.S.

Whitlock, Robert Nolen, B.S.

Wingfield, Thos. Whetsell, A.B.

Wimmer, Wm. Carey, A.B.

Undergraduate School

University of Maryland, 1961 George Washington Univ., 1961 University of Maryland, 1961 University of Maryland, 1960 Loyola College, 1961 University of Calif., Los Angeles Loyola College, 1961 University of Maryland, 1960 University of Maryland, 1961 Johns Hopkins University 1961 University of Maryland, 1960 Johns Hopkins University, 1961 Colgate, 1961 University of Maryland, 1956 George Washington Univ., 1961 St. Mary's College, 1961 University of Maryland, 1959 Loyola College, 1961 Western Maryland College, 1961

Univ. of North Carolina, 1961

Home State Maryland Pennsylvania New York Connecticut Maryland Maryland California Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland Pennsylvania New Jersey N. Carolina S. Carolina Virginia

N. Carolina

Summary and Geographical Distribution of Matriculants

Summary

September 10, 1964, to June 5, 1965

	Male	Female	Total
FOURTH YEAR CLASS	84	7	91
THIRD YEAR CLASS	107	6	113
SECOND YEAR CLASS	115	9	124
FIRST YEAR CLASS	122	8	130
		_	
	428	30	458

Summary

September 9, 1963, to June 6, 1964

	Male	Female	Total
FOURTH YEAR CLASS	80	7	87
THIRD YEAR CLASS	88	7	95
SECOND YEAR CLASS	112	6	118
FIRST YEAR CLASS	118	10	128
	398	30	428

124 Geographical Distribution

	1st.	2nd.	3rd.	4th.	Total
Bermuda California District of Columbia Connecticut Delaware	4 1 2	1 4 3	1 1 1	1 1	1 2 10 5 2
Florida Hawaii Idaho Illinois Iowa Rhode Island	1 1 1	2	1	1	1 1 1 1 1
New Jersey Hong Kong Maine	7	3	3	3 1	16 1 1
Maryland Massachusetts Michigan	96 3	104	86 3 1	76	362 6 1
New York Ohio Oregon	5 1	3	2 2 1	6	16 3 1
Pennsylvania Puerto Rico South Carolina	4 2 1	2 1	4 2 3	1	10 5 2
Utah Virginia West Virginia Washington			2		2 3 1 2 1
Total	130	124	114	90	458

Medical Alumni Association

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the the		U	n	iv	re	rs	sit	ty	(of	1	M	aı	y	la	n	d,	8	1	C	or	po	or	at	ic	n	i	no	co	rŗ	0	ra	ate	ed	1	uı	ıd	le	r	th	ne	1	W	C	of
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(Here state amount or describe property)

Abeshouse G. A	74	Barry, J. Q
		Bartemeir, L. H 70, 105
Abrams, R. C.		
Acton, C. B		2400, 21
Adams, E		Bauernschrub, G. M 66
Adams, J. E		Baumgartner, R 68
Adams, T. R		Baxter, W. F., Jr 69, 104
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Akin, S. B	70	Beech, J. A
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Alderman, G. C	74, 109	Bell, F. K
Amourex, R. L.	61	Benitez, E. E 60, 69
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Andres, R.		Bessman, S. P 49, 52, 66, 85, 101
Anilane, J.		Besson, E. H 66
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	,	Bianco, E. A
Ardinger, J. S		Biehl, H. P
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Breitenecker, R 64,	99	Covington, E. E			75
Briele, H. A.	75	Cowen, J. R			70
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Bronushas, J. B	55	Cox, E. F 47,	49, 7	75, 1	08
Brown, A. V 52,	85	Cox, W. F., III			55
Brown, G. P	70	Creamer, J. J		64,	98
Brown, R		Crispens, C. H., Jr.			
Bryan, V		Crosby, R. M. N.			
Bryant, H. H 68, 1	02	Cross, E., Jr.			55
Bulkeley, J. T.		Cross, R. J		75, 1	09
Bundick, W. R 55,	92	Cuccia, C. A			
Burgin, B	55	Cunha, J. A			71
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Burnett, J. W 55,	90	Davidson, C. N	'	74, 1	07
Burns, H. B.	75	Davis, G. H		62,	98
Burns, T. A.		Davis, J. R			55
Buxton, R. W 48, 49, 74, 1	108	Davis, M. H.			55
Byerly, M. P.		Davis, N. M.			
Cader, G	55	Deane, G. E.			
Campbell, E. W 75,		Dembo, D. H.			
Caplan, L. H.	66	Dennis, J. M 48,			
Carey, T. N 55.	89	Derbyshire, R. L			71
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Carroll, D. G 55,	90	Diamond, L. S.			
Carroll, E. B.	111	Diener, R. L.			
Carson, J. E	70	Dietz, A. J., Jr.			
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Cavonius, C. R 64,	98	Doane, M. G.			52
Cerino, M. T 50, 75,	83	Dodd, W. A.			
Chambers, J. W	75	Donahoe, K.			
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Chandler, R. W		Dordai, A			
Charkes, N. D.	60	Doss, R. H.			71
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Ciambotti, A	60	Dudley, W. C			
Clemmens, R. L 66, 70, 101,	111	Due, D. Z.			
Coblentz, R. C	75	Duffy, T. E			
Cohen, B. S	90	Dumler, J. C.			
Cohen, J. H.	55	Dunnigan, W. C.			60
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Cohn, J. V.	70	Durkan, J. P			
Cole, G. A	61	Duvall, R. G., Jr.			55
Coleman, P. D 47, 69,	103	Dwyer, F. P.			
Connor, T. B 55, 89, 93,	111	Eastland, J. S.			
Cook, E. E., Jr	55	Ebbesson, S. O		. 50,	83
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Cordi, J. M	66	Ebner, F. F.			31
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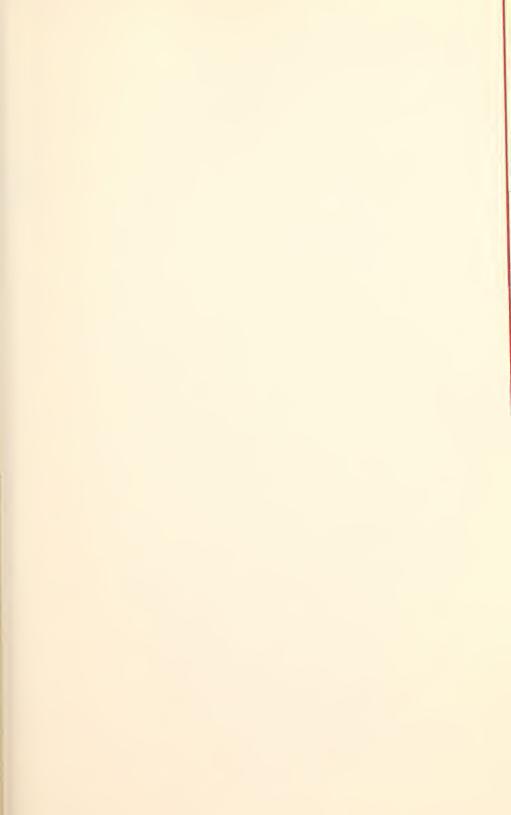
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THE UNIVERSITY is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take the lead in expanding the intellectual horizons and the scientific frontiers, thus helping mankind to go forward—always toward the promise of a better tomorrow.

From "The State and the University" the inaugural address of President Wilson H. Elkins, January 20, 1955, College Park, Maryland.



THE

UNIVERSITY of MARYLAND

BULLETIN



School of Medicine

1967-1969

The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right, at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.

School of Medicine THE UNIVERSITY OF MARYLAND

Medical School Calendar for 1967-1968

1967

1 0 1			
August	21-25	Re-examinations for advancement	
SEPTEMBER	5	1st year orientation	
		Registration and payment of fees,	
		2nd and 3rd years	9 A.M.*
September	6	1st year orientation	
		Registration and payment of fees,	
		1st and 2nd years	9 A.M.*
		3rd year orientation	
		•	

First semester begins September 7, 1967 and ends January 27, 1968

September	7	Instruction begins for all classes
November	22	Thanksgiving recess begins at 5 P.M.
November	27	Instruction resumes for all classes
DECEMBER	23	Christmas recess begins at 5 P.M.

1968

January	2	Instruction resumes for all classes	
January	25 and 26	Registration and payment of fees	9 A.M.*
		for second semester—all classes	

^{*} ALL students are expected to complete their registration, including the payment of fees on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE OF \$20.00. The Office of the Registrar is in Howard Hall and the Office of the Comptroller is in the University; both offices are open Monday through Friday from 8:30 A.M. to 4:45 P.M.

January	27	Last day of first semester
January	29	Beginning of second semester
FEBRUARY	22	Holiday-Washington's Birthday
APRIL	11	Easter recess begins at 5 P.M. for 3rd and 4th years.
APRIL	13	Spring vacation begins at 12 noon for 1st and 2nd years
April	16	Instruction resumes for 3rd and 4th years
APRIL	22	Instruction resumes for 1st and 2nd years
APRIL	16 and 17	National Board Examinations, Part II**
May	25	Classes cease for 4th year at 5 P.M.
May	30	Holiday-Memorial Day
May	31	Classes cease for 3rd year at 5 P.M.
June	1	Classes cease for 1st and 2nd years at 12 noon
June	3 and 4	Examinations for 3rd year
June	7	Pre-commencement—Baltimore Campus
June	8	Commencement Exercises—College Park Campus
June	3-6	Examinations for 1st and 2nd years
June	18 and 19	National Boards, Part I**

^{**} National Board dates are TENTATIVE AND SUBJECT TO CHANGE.

Medical School Calendar for 1968–1969

1968

1700			
August	18-22	Re-examinations for advancement	
September	3	1st year orientation	
		Registration and payment of fees,	
		2nd and 3rd years	9 A.M.*
SEPTEMBER	4	1st year orientation	
		3rd year orientation	
		Registration and payment of fees,	
		1st and 4th years	9 A.M.*

First semester begins September 5, 1968 and ends January 25, 1968

Instruction begins for all classes September 5

November	21	Thanksgiving recess begins at 5 P.M.
November	25	Instruction resumes for all classes
DECEMBER	23	Christmas recess begins at 5 P.M.

1969

January	2	Instruction resumes for all classes	
January 23	and 24	Registration and payment of fees	
		for second semester—all classes	9 A.M.*
January	25	Last day of first semester	

^{*} ALL students are expected to complete their registration, including the payment of fees on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE OF \$20.00. The Office of the Registrar is in Howard Hall and the Office of the Comptroller is in the University; both offices are open Monday through Friday from 8:30 A.M. to 4:45 P.M.

	Seco	nd semester begins January 27, 1969
JANUARY	27	Beginning of second semester
FEBRUARY	22	Holiday—Washington's Birthday
APRIL	3	Easter recess begins for 3rd and 4th years at 5 P.M.
APRIL	11-19	Spring vacation begins at 5 P.M. for 1st and 2nd years
APRIL	8	Instructions resumes for 3rd and 4th years
APRIL	15 and 16	National Boards, Part II**
APRIL	20	Construction resumes for 1st and 2nd years
May	24	Classes cease for 4th year at 12 noon
May	29	Classes cease for 1st and 2nd years at 12 noon
May	30	Holiday-Memorial Day
May	31	Classes cease for 3rd year at 12 noon
June	2 and 3	Examinations for 3rd year
June	7	Precommencement—Baltimore Campus
June	8	Commencement Exercises—College Park Campus
June	2-5	Examinations for 1st and 2nd years
JUNE	17 and 18	National Boards, Part I**

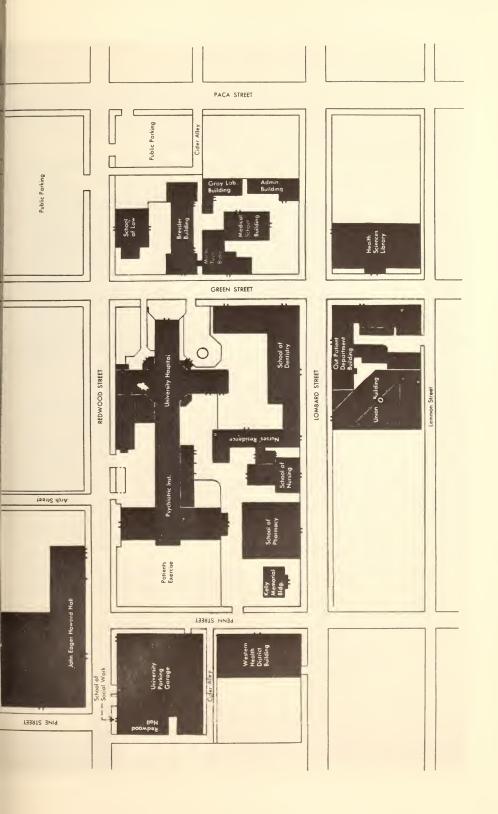
^{**} National Board dates are TENTATIVE AND SUBJECT TO CHANGE.

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Requirements For Admission

Policy on Admissions

Academic achievement, medical aptitude test scores, recommendations from college instructors or premedical committee, and personal interview are all carefully considered in evaluating an applicant. A student may be denied admission because of unsatisfactory reports in any one of these areas. Academic achievement alone does not automatically insure acceptance as the Committee is equally concerned with personality, aptitude, character, integrity, motivation, and assessment of the individual as a potential physician. A letter of recommendation is required from the premedical committee. If there is no premedical committee, letters are requested from two science and one non-science course instructors. Letters from other sources are not encouraged. Candidates will be expected to complete all required premedical courses before June 15 of the year they are to matriculate. With permission of the Committee on Admissions, this requirement at times may be waived under certain circumstances. All courses must be completed prior to registration in the School of Medicine in September.

Matriculants are required to accept the provisions of the Honor Code and to agree to assume its obligations prior to registration. A copy of the Honor Code

and agreement form is sent to each candidate with notice of acceptance.

Although preference will be given to Maryland residents, applications from well qualified students from other areas of the United States and Canada are welcome. Because of the many applicants for the number of places available, applicants can be considered only if they are citizens of the United States or Canada. Applicants from foreign schools must complete at least two years of premedical work in an approved college or university in the United States or Canada.

Definition of Resident and Non-Resident

Students who are minors are considered to be resident students if, at the time of their registration, their parents have been domiciled in this State for at least six months.

The status of the residence of a student is determined at the time of his first registration in the University, and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of the State by maintaining such residence for at least six months.

However, the right of the minor to change from a non-resident to resident status must be established by him prior to the registration period for any semester.

Adult students are considered to be residents if, at the time of their registration, they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. Time spent on active duty in the Armed Forces while stationed in Maryland will not be considered as satisfying the six month period referred to above, except in those cases in which the adult was domiciled in

Maryland for at least one year prior to his entrance into the Armed Services and was not enrolled in any school during that period.

The word domicile as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

Requirements for Admission to First Year Class

Careful attention should be given to the selection of elective courses particularly in the natural sciences. Except under unusual circumstances the student should plan a four year curriculum with a suitable Arts and Science major, leading to a bachelor's degree. A major in an area other than science is quite acceptable although it is not intended to divert students from a science major if this is their field of choice. The student taking science courses beyond the minimal requirements is encouraged to take such subjects as embryology, comparative anatomy, psychology, anthropology, physical chemistry, or cellular physiology. Courses duplicating medical school work, such as histology, neurology, biochemistry, mammalian physiology, human anatomy, and bacteriology are not recommended unless they are required in the student's major sequence. Having credit in such courses will not excuse students from taking them in medical school. In the non-science area courses in English, philosophy, sociology, economics, history, and government and politics are recommended. Mathematics through calculus is also recommended.

Applicants who choose a non-science major should take a sequence of science courses which demonstrates their academic ability to capably handle the demands

made by these courses.

A minimum of 90 semester hours (three academic years) of acceptable college credit are required exclusive of physical education and military science, earned in colleges of arts and sciences whose names occur on the current list of "Accredited Institutions of Higher Education" as compiled by the National Committee of Regional Accrediting Agencies of the United States. Applicants who will have earned a bachelor's degree in arts and sciences before registration for medical school from an approved college or university will be given preference over applicants who have not completed the requirements for the bachelor's degree. Only those courses will be acceptable which are approved for credit towards an A.B. or B.S. degree by the university or college attended as well as the University of Maryland.

The following college courses and credits at an acceptable level are required

before registering for Medical School.

	Semester Hours
General biology or zoology	8
Inorganic chemistry	8
Organic chemistry	6
General physics	8
English	12
Foreign language	6

No more than 60 hours will be accepted from accredited Junior Colleges and then only if these credits are validated by a college offering a Bachelor of Arts or Science Degree.

Applicants over the age of 26 cannot be encouraged to apply.

An evaluation of the applicant's credentials is made by members of the Committee of Admissions to determine if an interview is to be requested. This decision is based upon a composite estimate of the applicant's ability and future promise in the field of medicine as measured by his academic record to date, performance in the Medical College Admissions Test, recommendations of the premedical faculty, extracurricular activities, and the applicant's overall standing as compared with that of the other applicants applying that year. Such interviews must be scheduled in advance at the initiative of the Committee.

Medical College Admission Tests should be taken in May and must be taken no later than October of the year preceding the year of entrance. Applicants should write the Psychological Testing Corporation, 304 East 45th Street, New York, New York 10017, for further information and for registration forms.

Requirements for Admission to Advanced Standing

Students who have attended approved medical schools are eligible to file applications for admission to the second and third year classes only. These applicants must meet the current first year entrance requirements in addition to presenting acceptable medical school credentials, and a medical school record based on courses which are equivalent to similar courses in this school.

Application for advanced standing must be made no later than April 15 of

the year of desired admission.

No student will be considered who has been dismissed from any medical school unless his former Dean submits a letter addressed to the Committee on Admissions stating the student is reinstated in good standing and eligible for promotion.

No student will be considered who is not eligible for promotion at time of

transfer.

Applicants for admission to third year class are required to complete satisfactorily the National Board Examination, Part I, before registration.

Persons who already hold the degree of Doctor of Medicine will not be admitted to the Medical School as a candidate for that degree from this University.

No applicants from foreign medical schools will be considered for advanced standing.

Application for admission to advanced standing is made in accordance with instructions accompanying the application form.

Method of Making Application

Requests for application forms should be sent to The Committee on Admissions, School of Medicine, 522 West Lombard Street, Baltimore, Maryland 21201.

Application for admission to the first year class entering in September must be filed between July 1 and December 31 of the year prior to desired admission. Requests for application forms should be made after June 15.

It is in the best interests of the applicant to file his application and the sup-

porting credentials early in the application period.

It is the responsibility of the applicant to see that all required credentials and the completed application packet are filed with and received by the Committee on Admissions. This especially applies to the letter of recommendation from the premedical committee, transcripts from all institutions attended (sent directly from that institution to the Committee), and the scores on the Medical College Admissions Test.

Orientation for New Students

All new students, whether they are admitted to the first year class or with advanced standing, are expected to attend Orientation for New Students.

Instruction Leading to Degree of Doctor of Medicine

Organization of Curriculum

The curriculum is organized to permit students to acquire fundamental knowledge of the principles of medicine, establish habits of applying critical evaluation and judgment to problems of health and disease, and develop ethical principles

which inspire trust in their patients and respect of the community.

Instruction encompasses four academic years. The first and second years are largely devoted to the study of the basic medical sciences. In the first year, physiology, biochemistry, and biophysics are given as one correlated course, i.e., Introduction to Basic Medical Sciences and this is closely correlated with anatomy. After introductory laboratory experience, the students work in small groups on projects in any of the basic medical science departments. Each subject relates to the concept that basic knowledge has its clinical application. The student is guided in the acquisition of detail which he acquires by himself. A closely knit interdepartmental approach to the curriculum is being developed in order to enable the student to use the techniques and knowledge of basic science for the better understanding and more rational scientific approach to the clinical management of human illness. Student research is encouraged during the summer recesses and during the elective times in the curriculum. In most courses, the final examination as the sole test of achievement has disappeared, and the student's final grade is determined by examinations, seminars, conferences, and assigned work carried on throughout the course. Where applicable, teaching is done under the direction of a faculty committee from several departments. This method of teaching provides better correlation and coordination of the subject matter with more thorough coverage of the principles involved. The student is expected to conduct himself or herself as a graduate student and to devote free time to areas of his or her special interests.

General Faculty Rules

The University authorities reserve the right to make changes in the curriculum, the requirements for advancement and graduation, fees, and in rules and regulations whenever expedient.

The School of Medicine does not accept responsibility for students' personal property.

Students who report for classes later than one week after scheduled time will be permitted to begin work only by permission of the Dean.

Attendance at all scheduled classes is expected.

Notice of change of address should be submitted promptly to the Dean's Office and to the Registrar's Office.

Grading System

Official grades are designated by these symbols:

"3", "2", and "1"-in rank from highest to lowest

P-satisfactory completion of course

F-failure

I-incomplete

C-condition

Students will receive a grade for the various disciplines in the manner outlined below:

Anatomy Biochemistry Physiology Microbiology Pharmacology 3, 2, 1, F, I, C Pathology Psychiatry Surgery Medicine **Pediatrics** Ob-Gyn Neurology Radiology P. F. I. C Ophthalmology Anesthesiology Preventive Medicine

Advancement and Graduation

At the end of each academic year the Advancement Committee convenes to review the records of all students in each class. The estimate of a student's standing is based on academic achievement, his moral and ethical traits, and general evaluation of his fitness for a career in medicine. The committee recommends appropriate action to the Faculty Board.

1. All students will be required to take the comprehensive National Board Examinations, Parts I and II. and they will be expected to pass the examinations to be advanced from the second to the third year or to graduate, respectively.

2. Students in all courses in which National Board Examinations are given will receive provisional grades of "3", "2", "1", Condition (C), or Failure (F). Only those students who have "3", "2", or "1" on the first year courses and no "F's" in the second year courses will be eligible to take the National Board Examination, Part I. Only those students who have passed Part I, receive "3", "2", or "1" in the third year courses and no "F's" in the fourth year courses will be eligible to take the National Board Examination, Part II.

3. Students with "C's" in the second and fourth year courses may, at the discretion of the department head, remove the "C" by re-examination or by passing the National Board Examination in the subject in which they are deficient.

4. Students with a "C" in any first or third year course must remove the "C" by re-examination before being eligible for promotion to the second or fourth

year.

- 5. Final grades will be assigned in those courses for which National Board Examinations are given only when the National Board Examinations are passed and will be 3, 2, 1.
- 6. Students who fail the National Board Examinations by National Board standards will receive a "C" in those subjects in which the score is lower than 75.
- 7. A rating of "C" obtained as a result of failing the National Board Examinations must be removed prior to advancement from one year to the next or graduation by re-examination in the conditioned subject.

8. No student will be advanced on probation.

9. Students who fail re-examinations will be given an "F" and any student receiving more than one "F" in a major course in any one year will be dismissed from the school.

Students with one failure or one failure plus one or more conditions, at the discretion of the Advancement Committee, may be allowed to remove the "F" by repetition of the course, the semester, the entire year at Maryland or the course at any school satisfactory to the department head, or *may be dismissed*.

Students who repeat a year and do not satisfactorily pass all courses with a better than minimum rating may, at the discretion of the Advancement Com-

mittee, be dismissed.

10. When circumstances beyond the student's control make it impossible for him to complete a course at the usual time, he will be given an Incomplete (I) until such time as he has completed the course. An "I" is in no way prejudicial to the final rating or grade of the student in the course, but must be removed prior to promotion to the next year.

11. The faculty reserves the right to determine if a student may withdraw, repeat, advance, or graduate on academic or moral and personal grounds, in-

cluding traits of character.

12. All discretionary actions of the Advancement Committee are subject to ratification by the Faculty Board and must be presented to them at their next meeting.

Certification for State Board Examinations

Students at the end of their second and fourth years will be certified to the State Board Examiners if they have successfully completed the requirements for promotion to the third year or for graduation.

Attendance at Graduation

All students are required to attend graduation. Permission to receive the degree *in absentia* must be obtained in advance from the Dean.



Additional Educational Programs

Baccalaureate Degree

Selected students entering the School of Medicine from colleges which usually grant a baccalaureate degree after the successful completion of the first year of medicine, are responsible for: a) providing a certificate from his college or university that he is eligible for this degree, and b) meeting all requirements of the School of Medicine for advancement to the second year.

Graduate Program

Graduate courses and research opportunities leading to advanced degrees are available in most of the basic science departments of the School of Medicine. Students pursuing graduate work must register in the Graduate School of the University of Maryland and meet the same requirements as other graduate students. Detailed information concerning fees, scholarships, and other material of general nature, may be found in the University publication titled *An Adventure in Learning*. This may be obtained from the Office of University Relations, North Administration Building, University of Maryland, College Park, Maryland.

Combined Doctor of Philosophy— Doctor of Medicine Program

Properly qualified medical students may elect to enter the combined educational program leading to Doctor of Medicine and a graduate degree. Such students may arrange a leave of absence of up to three years at the end of their second or third year in medical school to become candidates for either M.S. or Ph.D. in one of the basic medical sciences. Before entering the combined program, students must meet the requirements for admission to the Graduate School and be acceptable to the department of their choice as a candidate for an advanced degree.

Internships and Residencies

University Hospital offers the following graduate specialty training programs for interns and residents. These programs are approved by the Council on Medical Education and Hospitals of the American Medical Association.

University Hospital participates in the National Intern Matching Program to fill its 30 approved intern positions. The program includes straight internships in medicine, surgery, pediatrics, and pathology.

Approved residency programs are offered in the following specialty areas:

Department of Medicine: Internal Medicine, Dermatology

Department of Surgery: General Surgery, Neurological Surgery, Orthopedic Surgery, Thoracic Surgery, Otolaryngology, Urology

16 • Internships and Residencies

Department of Pediatrics: Pediatrics

Department of Psychiatry: Psychiatry, Child Psychiatry

Department of Anesthesiology: Anesthesiology

Department of Obstetrics-Gynecology: Obstetrics and Gynecology

Department of Pathology: Pathology Department of Radiology: Radiology Department of Neurology: Neurology

Department of Preventive Medicine: Physical Medicine and Rehabilitation

Department of Ophthalmology: Ophthalmology

In total, approximately 225 resident positions are offered.

Appointments to intern and resident positions are made by the Director of the Hospital upon the recommendations of the House Staff Committee of the Medical Board or, in the case of residents, upon the recommendations of the appropriate Clinical Department Head. Correspondence and applications should be addressed to:

THE DIRECTOR University Hospital Redwood and Greene Streets Baltimore, Maryland 21201

Additional Educational Programs

Research training in international health is accomplished through the mechanism of a Research Associate program under the Institute of International Medicine. This program provides for post-doctoral training in research on a broad spectrum of health problems of developing nations.

Tuition, Fees and Registration

Current Fees

Application Fee	0
Matriculation Fee (New Students)	
Tuition—Resident of Maryland	0
Tuition—Non-Residents	0
Laboratory Fee	0
Student Activities Fee	0
Student Health Fee	0
*Student Union Fee	0
**Special Fee	0
National Board Examination Fee	
Second year students	0
Fourth year students	0
***Hospital Insurance (Blue Cross)	
Individual Plan	4
Family Plan	8

The application fee should be submitted with the formal application to medical school. A matriculation fee of \$10 and a deposit on tuition of \$50 is required of all applicants before the expiration date specified in the offer of acceptance. The deposit on tuition will be credited against first semester charges. In the event of withdrawal before registration the matriculation fee will be retained, and the advanced deposit will be returned on request, if requested before February 1.

Registration

For the fall semester, all students, after proper certification, are requested to complete a set of registration cards to be obtained from the Office of the Assistant Dean of Student Affairs. All students are expected to complete their registration, including the payment of bills on the registration days. Those who do not complete their registration on the prescribed days will be charged a fee of \$20.00.

**The Special Fee is payable by all full-time students enrolled in the Professional Schools on the Baltimore Campus and is used to finance equipment for the Union Building.

One-half of the tuition fee and all of the following—the laboratory fee, the student health fee, the student union fee, the National Board Examination fee, the special fee, and the student activities fee are payable on the date specified

^{*}The Student Union Fee is payable by all students enrolled in the Professional Schools on the Baltimore Campus and is used to pay interest on and amortize the cost of construction of the Union Building.

^{***}Membership of the student in Blue Cross or any other acceptable hospital insurance is required. Each student must produce certified proof of such membership at the time of registration. Rates are subject to change.

for registration for the first semester. Blue Cross Hospitalization for six months in advance is paid at the beginning of each semester.

The remainder of the tuition fee shall be paid on the date designated for the payment of fees for the second semester. Fourth year students shall pay the graduation fee, in addition, at this time.

Non-payment of Fees

If semester fees are not paid in full on the specified registration dates, a penalty of \$20.00 will be added.

If a satisfactory settlement or an agreement for settlement is not made with the business office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

Re-examination Fee

A student who is eligible for re-examinations must secure a bill in the amount of \$5.00 from the Registrar's Office, make payment to the Cashier for each subject in which he is to be examined, and present the receipt to the faculty member giving the examination before he will be permitted to take the examination.

Student Activities Fund

This fund supports all student activities and is budgeted by the Student Council in accordance with its own by-laws. All expenditures from this fund must be approved by the Student Council. The fund supports the student recreational and social program, representation at national conventions for certain student organizations, the cost of registration in the National Internship Matching Program as well as other activities. A portion of the fund is allocated to the year-book and provides each medical student with a copy of this publication. On registration all students are given a copy of *The Student Handbook* containing The Honor Code and The By-Laws of the Honor Council together with the By-Laws of the Student Council.

Withdrawals and Refunds

Students desiring to leave the School of Medicine at any time during the academic year are required to file with the Dean a letter of resignation. The student must satisfy the authorities that he has no outstanding obligations to the school and must return his Student Identity Card and Matriculation Card.

If these procedures are not completed, the student will not be entitled to honorable dismissal nor to refund of fees.

Students under 21 years of age must supplement the procedures previously described with the written consent of their parents or guardians.

ACADEMIC STANDING ON WITHDRAWAL

Students who voluntarily withdraw during an academic semester will be given no credit.

Students are not permitted to resort to withdrawal in order to preclude current

or impending failures. Their standing on withdrawal will be recorded in the

Registrar's Office.

Students who withdraw from the School of Medicine, and later desire readmission, must apply to the Committee on Admissions, unless other arrangements have been consumated with the Dean's written consent.

Students who are eligible to honorable dismissal will receive a refund of current charges, after the matriculation fee has been deducted, according to the following schedule:

PERIODS ELAPSED AFTER INSTRUCTION BEGINS

	PERCENTAGE
	REFUNDABLE
Two weeks or less	80%
Between two and three weeks	60%
Between three and four weeks	40%
Between four and five weeks	
After five weeks	0

LEAVE OF ABSENCE

Students who are in good standing may be granted one year's leave of absence on request to the Dean. Longer leaves can be arranged only under special circumstances except those students in the combined M.D.-Ph.D. program.

Required Equipment

At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments similar to the one on display in the bookstore. In addition, they must provide themselves with microscopes equipped with a mechanical stage and a substage lamp. Microscopes must meet the standards described below.

A standard monocular or binocular microscope made by Bausch & Lomb, Leitz, Zeiss, Reichert, or American Optical Company fitted with the following

attachments, meets the requirements:

16 mm., 10x, 0.25 N.A.-4.9 mm. working distance. 4 mm., 43x, 0.65 N.A.—0.6 mm. working distance.

1.8 mm., 97x, oil immersion, 1.25 N.A.—0.13 mm. working distance.

Oculars: 10x and 5x. Huygenian eyepieces.

A scanning objective is optional, but often proves to be of great value.

The microscope should also be equipped with a wide aperture stage with detachable ungraduated mechanical stage, a substage condenser, variable focusing type 1.25 N.A. with iris diaphragm (a rack and pinion focusing device is preferred), and a mirror which is plane on one side, and concave on the other.

A carrying case is recommended.

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some of the older instruments are in poor optical or mechanical condition, and, in addition, some are equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage.

All microscopes will be checked during the first scheduled laboratory in

Microscopic Anatomy.

Other instruments and equipment may be needed. The student will be informed of these needs by the department involved at an appropriate time.

Students in the second year class are also expected to provide themselves with short white lapel coats. Three button, 8-ounce sanforized duck coats are satisfactory.

Prizes, Scholarships, Fellowships, Loan Funds, and Student Employment

Prizes

THE FACULTY PRIZE

The Faculty will award the Faculty Gold Medal and Certificate and five or more Certificates of Honor to those highest ranking candidates for graduation who, during the four academic years, have exhibited outstanding qualifications for the practice of medicine.

THE BALDER SCHOLARSHIP AWARD

Each year a prize of \$500 will be awarded for outstanding academic achievement to a graduating senior.

THE DR. A. BRADLEY GAITHER MEMORIAL PRIZE

A prize of \$25, given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, is awarded to the student in the fourth year class doing the best work in Genito-Urinary Surgery.

THE DR. LEONARD M. HUMMEL MEMORIAL AWARD

A gold medal and Certificate of Proficiency will be awarded annually as a memorial to the late Dr. Leonard M. Hummel to the graduate selected by the Executive Committee of the Faculty who has manifested outstanding qualifications in Internal Medicine.

THE DR. HARRY M. ROBINSON, SR., PRIZE

A prize of \$25 is given each year in honor of Dr. Harry M. Robinson, Sr., late Professor Emeritus of Dermatology, to the member of the fourth year class selected by the Faculty who has done outstanding work in Dermatology.

THE DR. JACOB E. FINESINGER PRIZE

A prize of \$100 is given each year in honor of Dr. Jacob E. Finesinger, late Professor and Chairman of the Department of Psychiatry, to the member of the fourth year class selected by the Faculty who has done outstanding work in Psychiatry.

THE DR. MILTON S. SACKS MEMORIAL AWARD

A prize of \$100 is given each year in honor of Dr. Milton S. Sacks, late Professor of Medicine and Hematology, to the member of the fourth year class selected by the Faculty who has performed with special excellence in Medicine and Hematology.

THE DR. WAYNE W. BABCOCK PRIZE

Each year a prize of \$50 will be awarded to a graduating senior for outstanding work in Surgery as a memorial to Dr. Wayne W. Babcock.

THE CLINICAL PATHOLOGICAL CONFERENCE AWARD

The junior or senior student who has performed most ably throughout the academic year in the diagnosis of clinical pathological conference cases will receive an award of \$50 and will have his name appropriately inscribed on a plaque in Gordon Wilson Hall.

Financial Aid

The supervision of financial aid for medical students rests with the Assistant Dean of Student Affairs, 103 Davidge Hall. In general, all University scholarships and most Federal scholarships and loans are awarded on an annual basis in July prior to the academic year. Relevant applications must be complete by June 1. A far smaller number of Federal scholarships, Federal loans, and University loans are awarded in October and in January.

Scholarships

ALL CLASSES

FEDERAL HEALTH PROFESSIONS SCHOLARSHIP PROGRAM

Members of the classes of 1970–1973 may apply for Federal Scholarships, awarded on the basis of need alone to "members of low income families who could not otherwise continue their medical studies." Those students eligible for such scholarships may anticipate a total educational indebtedness at the end of Medical School not in excess of \$5000. Such scholarships, which are renewable after annual reassessment of both needs and resources, may be as high as \$2500 per year. No Federal Scholarships will be awarded to students who do not also simultaneously request and receive a Federal Health Professions' Loan.

STATE SCHOLARSHIPS FOR GENERAL PRACTICE

The State Scholarship Board, 2100 Guilford Avenue, Baltimore, Maryland, offers 10 scholarships each year in the amount of \$1500 per year. Such awards, which are renewable annually, may be made to needy students anticipating or having a bachelor's degree in the year of the award. The students must have been residents of Maryland for five years prior to the time of application. The awards, based on need and academic merit, will be given to students only if they sign a bond to "engage in the general practice of medicine for no less than three years in an area of need in the State of Maryland so designated by the State Health Department. . . "Applications for these awards should be made directly to the State Scholarship Board; they must be submitted by April 1 prior to the relevant academic year.

FOR FRESHMEN ONLY

AVALON SCHOLARSHIP

An Avalon Scholarship, with a stipend of \$650, will be awarded to the member of the incoming freshman class who shows the greatest promise for a successful career in medicine. All accepted students are eligible whether resident or non-resident. Formal application is not necessary in that all admitted students are automatically considered. At the end of each academic year, the recipient's record will be reviewed by the Committee on Scholarships and Loans and the scholarship extended for another year if the record warrants. Any recipient who does not stand at least in the upper third of the class may not be considered eligible for renewal. If an applicant is awarded an Avalon Scholarship, it is understood that during its tenure he will accept no outside remunerative employment during the school year without approval of the Office of the Assistant Dean of Student Affairs.

WARFIELD FRESHMAN MERIT SCHOLARSHIP

Five scholarships, each with a stipend of \$650, are available to members of the first year class who are residents of Maryland and who have demonstrated outstanding potentiality for the study of medicine. Selection will be based on the applicant's college record, Medical College Admission Test scores, and any other criteria available to the Committee on Admissions, including its impression of the applicant at the time he was interviewed. Formal application should be made directly to the Committee on Admissions. The Committee reserves the right to withhold scholarship awards if, in its opinion, there are no qualified applicants in any particular year. These scholarships are available to first year students only, and therefore are not renewable. Recipients may apply in later years for Medical School Scholarships open to upperclassmen.

FOR UPPERCLASSMEN ONLY

UNIVERSITY SCHOLARSHIPS

Over 40 University Scholarships are available to members of the three upperclasses with stipends ranging from \$250 to \$1000 a year, with an average of about \$500. More than half of these scholarships are derived from the kind bequest of the estate of Dr. Michael Vinceguerra. All scholarships are awarded for one academic year and will be renewed only on application. Awards are made on a competitive basis with both academic proficiency and need as major considerations. Students who do not qualify for scholarships may apply for student loans.

Loans

FEDERAL HEALTH PROFESSIONS' STUDENT LOAN PROGRAM

Significant financial assistance is available to all students in need from the Federal Health Professions Student Loan Program. Loans up to \$2500 per year are repayable over a 10-year period, beginning three years after graduation. No interest is charged on the loans until the beginning of the repayment period, when interest will be charged at the current federal rate which is at present 4.6%.

UNIVERSITY LOANS

Loans from a number of funds under direct Medical School control are available to medical students who are in financial need. Application may be made at any time, although most applications are made and considered shortly before the beginning of the second semester. Except in unusual circumstances, loans from Medical School funds are limited to \$400 a year. Such loans are awarded on the basis of need. Most loans are to be repaid in five equal installments with the first payment on the loan being due at the end of the fifth year following graduation. At that time simple interest of 3% begins to accrue.

AMERICAN MEDICAL ASSOCIATION LOANS

The American Medical Association will guarantee loans up to \$750 per year to medical students with interest at 1% above the Chicago prime rate. Repayment must begin on the first day of the fifth month after completing training including Internship and Residency. Thereafter, there will be an additional 1% interest charged on the unpaid balance.

STUDENT COUNCIL EMERGENCY LOAN FUND

The Student Council of the Medical School has established an Emergency Loan Fund for all medical students. When funds are available, loans are without interest, are limited to \$400, and must be repaid within 120 days.

Fellowships

STUDENT RESEARCH FELLOWSHIPS

Over 100 Student Summer Research Fellowships are available annually upon application to the Committee on Scholarships and Loans or to the individual departments of the School of Medicine. A very limited number of student research fellowships are awarded for work during the academic year by selected departments.

THE DR. JOHN B. WEAVER FELLOWSHIPS

The Will of Dr. John B. Weaver, who died in 1929, authorized the Trustees of the Endowment Fund of the University of Maryland to establish fellowships in his name. Two such fellowships, each in the amount of \$1500, will be awarded annually to applicants who as physicians are full time fellows in research or teaching in the University of Maryland School of Medicine.

Student Employment

Students engaging in outside work during the academic year must report such activities to the Assistant Dean of Student Affairs at the beginning of the School year or at anytime during the school year that such work is undertaken. This regulation pertains to all students entering the School of Medicine in September, 1965, and thereafter. Students of any class designated by an appropriate Advancement Committee to be in academic difficulty will not engage in part time employment without the approval of the Assistant Dean of Student Affairs. Students considering outside employment in a clinical setting are encouraged to review carefully the opinion of the Law Department of the American Medical Association entitled "Employment of Medical Students as Externs."

General Information

Organizations

STUDENT ACTIVITIES COMMITTEE

This Committee serves to coordinate and integrate the activities of all student groups and to act as liaison between the student body, the administration, and the faculty. Members are: President of the Student Council, Class Presidents, Chairman of the Honor Council, President of the Student American Medical Association, President of the Interfraternity Council, President of Alpha Omega Alpha, President of the Women's Auxiliary to Student American Medical Association, Editor of the Yearbook, Editor of the SAMA Newspaper, President of Christian Medical Society, and the Athletic Director of the Medical Student Council, Assistant Deans and those faculty members appointed by Faculty Board.

STUDENT COUNCIL

Each year the student body elects the Student Council which formulates and directs policies and activities of the student body and makes appropriate recommendations to the proper authorities. It is also responsible for disbursement of the Student Activities Fund, arranges the social program for the year, maintains liaison with the Student Union Board, and organizes the Medical Historical Society.

HONOR COUNCIL

The Honor Council, elected by the Student Body, is responsible for the interpretation and execution of the Honor Code. Acceptance of the provisions and obligations of this Code is required of all students entering the Medical School.

BALTIMORE STUDENT UNION BOARD

The Board is a representative body of those students who live in the Student Union. The Medical Student Council maintains liaison with the Board.

STUDENT AMERICAN MEDICAL ASSOCIATION

All medical students are eligible to join the chapter of Student American Medical Association at Maryland. This organization is designed to prepare the future physician for full participation in organized medicine. Furthermore, the active chapter is responsible for student liaison with high school and college groups, for publication of the bi-monthly SAMA Newspaper, and for the organization of an annual Regional Research Seminar involving the SAMA chapters in the Middle Atlantic area. The SAMA Newspaper covers Medical School news including the latest developments in areas of concern to medical students and faculty.

WOMEN'S AUXILIARY, STUDENT AMERICAN MEDICAL ASSOCIATION

The Women's Auxiliary helps wives of medical students prepare themselves for their future responsibilities as wives of physicians. It has promoted closer association among the student wives, both with each other and with wives of faculty members and practicing physicians. The Auxiliary actively participates in many functions for the betterment of the Medical School.

STUDENT COUNCIL INTRAMURAL ATHLETIC PROGRAM

Each year the Student Council sponsors an intramural athletic program which consists of competition, generally interclass, in touch football, basketball, softball, and tennis. Furthermore, a faculty-student softball game is a feature of the annual Medical Student Council Spring Picnic.

THE INTERFRATERNITY COUNCIL

The purpose of the Council is to further the interests and improve the coordination and cooperation of the member groups. Each fraternity is represented by its President and Social Chairman. One of these representatives is chosen President for the school year on a rotating basis.

The Interfraternity Council organizes the Freshmen Orientation Program, operates a used Book and Microscope Store, and sponsors a yearly lectureship.

THE YEARBOOK

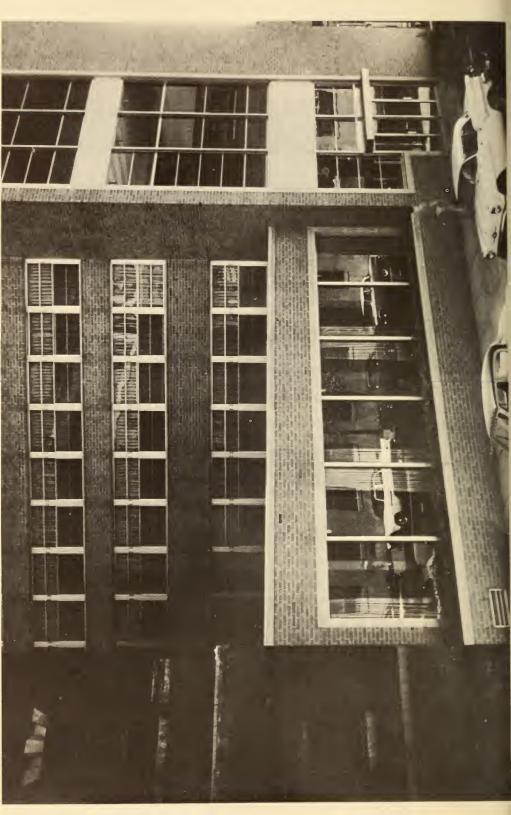
The Yearbook, Terra Mariae Medicus, which covers all the facets of student activities, is compiled by the students. Originating as Bones, Molars, and Briefs, the Yearbook has provided a continuous record of graduating classes as far back as 1896. It is the outstanding record of student life. The cost of the Yearbook is included in the Student Activities Fee; hence, all medical students are entitled to receive a copy annually without further charge.

Medical Historical Society

The Society is open to all interested medical students, house staff, and faculty. Meetings are held during the year at which members or guest lecturers present papers in selected areas of medical history.

Alpha Omega Alpha: National Honorary Medical Society

The Beta chapter of Maryland was established at the University of Maryland in 1949. Medical students possessing outstanding qualities of moral integrity. scholarship, and leadership are elected to membership in their third or fourth



years. The Society sponsors an annual lectureship, a forum for the presentation of medical student research, and chapter meetings on topics of social, educational, and philosophical interest to medical students and faculty.

Student Health Service

James R. Karns, M.D. Director, Student Health Service The Medical School has made provision for the systemic care of undergraduate medical students according to the following plan:

PRELIMINARY EXAMINATION

All new students will be examined during the first week of the semester. Notice of the date, time, and place of the examination will be announced to the classes and posted on the bulletin board. The passing of this physical examination is necessary before final acceptance of any student.

MEDICAL ATTENTION

Students in need of medical attention will be seen by the Director, Dr. James R. Karns, in his office on the second floor, Outpatient Department at 12 p.m. daily, except Saturday and Sunday. In case of necessity, students will be seen at their homes.

HOSPITALIZATION

All students are required to have Blue Cross hospitalization insurance, or its equivalent.

PHYSICAL DEFECTS

Prospective students are advised to have any known physical defects corrected before entering school in order to prevent loss of time which later correction might incur.

LIMITATIONS

It is not the function of this service to treat chronic conditions contracted by the students before admission, nor to extend treatment of acute conditions arising in the period between academic years, unless the school physician recommends this service.

Housing

The Baltimore Union Building for students of the Professional Schools is located adjacent to the Professional Schools at 621 West Lombard Street. Accommodations for 195 men are provided in a five-story, semi-air conditioned building which also contains a cafeteria, fountain lounge, meeting rooms, laundry facilities, game room, bookstore, tobacco shop, and barber shop; there are lounges on each floor. Double rooms are available. The rental agreement is made for rooms only; meals are served cafeteria style on a cash basis. The contract for accommodations covers the academic year. The rates are:

\$160.00 per semester per double room. 80.00 per eight weeks summer session per double room. The rate shown above is per person and includes the following: Room furnishings, bed and cover, mattress, chest of drawers, closet, bookshelves, desk, medicine cabinet, desk chair, and desk lamp. Maid service will include cleaning of room twice per week and replacement of change of linen once each week. Telephone service is available through the Chesapeake & Potomac Telephone Company. Cost of the telephone is not included in the room rate. Information can be obtained from the Director's Office. Mail service is also provided. Towels and linens must be rented through the designated Commercial Rental Service. Residents may either provide their own pillow and blankets or rent them from the linen service. A small amount of luggage space is available. Storage of anything other than luggage will not be available.

HOW TO APPLY FOR A ROOM ASSIGNMENT

Write: DIRECTOR'S OFFICE
The Baltimore Union Building
621 West Lombard Street
Baltimore, Maryland 21201

There are no University housing facilities in Baltimore available for women.

Diplomas

Members of the Senior Class must fill out an "Application for Diploma Form."

Commencement

All graduating seniors are required to attend the Pre-commencement and Commencement ceremonies unless excused in writing by the Dean.

Buildings and Facilities

Davidge Hall

This hall, at 522 West Lombard Street, is named after the first dean, Dr. John Beale Davidge, and was the first building of the medical school to be erected. It was completed in 1812 and is a replica of the Pantheon in Rome. It is the oldest structure in this country from which the degree of Doctor of Medicine has been granted annually since its erection. It is located at the N.E. corner of Lombard and Greene Streets and houses the offices of the Dean, and his staff, the Committee on Admissions, the Postgraduate Committee, Medical Alumni Office, in addition to Chemical and Anatomical Halls.

Administration Building

520 West Lombard Street contains facilities of the Department of Physical Therapy.

Bressler Research Laboratory

The Frank C. Bressler Research Laboratory at 29 S. Greene Street, a memorial to a generous alumnus, was completed in 1940.

It houses the Department of Anatomy in addition to the research facilities of the departments of Medicine and Surgery, animal quarters, the Bressler Memorial Room, and the Baltimore Offices of the Board of Regents and the President of the University.

Gray Laboratory

This building houses research laboratories of the various Clinical Departments and offices of the Department of Physical Therapy.

Howard Hall

660 West Redwood Street houses the Departments of Biochemistry, Biophysics, Cell Biology and Pharmacology, Microbiology, Pathology, and Physiology in addition to the Health Sciences Computer Center and the Central Animal Quarters of the School of Medicine. In this building also are located the Baltimore Office of the Registrar and Cashier, the Office of Admissions, and various other administrative offices of the Schools on the Baltimore Campus.

Medical Technology Building

31 South Greene Street houses some of the offices and laboratories of the Department of Pathology, offices of the Department of Preventive Medicine, and research laboratories of the Department of Pediatrics.







University Hospital

University Hospital is part of the University of Maryland. It is one of the oldest institutions for the care of the sick in the State of Maryland. It was opened in September 1823, under the name of the Baltimore Infirmary and at that time consisted of only four wards, one of which was reserved for patients with diseases

of the eve.

In 1933-1934 the present University Hospital was erected with a capacity of 435 beds and 65 bassinets. In 1952-1953 a modern Psychiatric Institute Building was erected and a junctional wing was added to the general hospital. New additions have increased the hospital bed capacity to 667 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, psychiatry, and the various medical and surgical specialties. All hospital accommodations, whether private, semiprivate, ward, or specialized, are available to the teaching programs.

The hospital buildings are situated opposite the Medical School buildings. The students, therefore, are in close proximity to the clinical facilities of the University Hospital. The hospital as planned, makes a particularly attractive teaching unit and is the major clinical teaching facility of the Medical School.

EMERGENCY SERVICE

The Emergency Service of the hospital receives and treats a large number of emergency cases because of its proximity to the largest manufacturing and shipping districts of the city. During the past fiscal year a total of 42,325 patients were treated in the Emergency Room.

OUT PATIENT DEPARTMENT

The Out Patient Department is in the old University Hospital. It has been remodeled to provide space and facilities for more than fifty clinics, the departments of X-ray, a pharmacy, laboratory, and other ancillary services. Admission policies are predicated upon the teaching requirements of the School of Medicine and the ward services of the University Hospital.

Visits to the various clinics of the Out Patient Department during the last

fiscal year totaled 153,187.

Health Sciences Library

The Schools of Medicine, Dentistry, Pharmacy, Nursing, and Social Work are served by the Health Sciences Library in a modern, four-story library building completed in 1960. The oldest part of the library collection dates back to 1813 when the University of Maryland purchased the books of Dr. John Crawford to form a medical library. The present library contains more than 110,000 bound volumes and regularly receives over 2,500 scientific periodicals.

The library of the Medical and Chirurgical Faculty of Maryland and the Welch Medical Library are open to students of the School of Medicine without charge. Other libraries of Baltimore are the Peabody Library and the Enoch Pratt Free

Library.

LIBRARY STAFF

HOWARD ROVELSTAD, Director of Libraries and Professor of Library Science; A.B., University of Illinois, 1936; M.A., 1937; B.S.L.S., Columbia University, 1940. *IDA MARIAN ROBINSON, Librarian Emeritus; A.B., Cornell University, 1924; B.S.L.S., Columbia University School of Library Service, 1944.



*HILDA E. MOORE, Librarian and Associate Professor of Library Science; A.B., Randolph-Macon Woman's College, 1936; A.B.L.S., Emory University Library School, 1937.

*EDITH M. COYLE, Assistant Librarian for Technical Services; A.B., University of North Carolina, 1937; A.B.L.S., University of North Carolina School of Library Science, 1939; M.A., The Johns Hopkins University, 1945.

*ELEANOR M. MITTEN, Assistant Librarian for Readers' Services; B.S., Cornell University, 1942; B.S.L.S., Syracuse University School of Library Science, 1949.

MARLAYNE ANCES, Assistant Reference Librarian; B.A., Connecticut College for Women, 1953; A.M.L.S., University of Michigan, 1965.

SARAH L. ATKINS, Cataloging Assistant.

SHARON I. BLACKMAN, Circulation Assistant.

MELAYN DORFLER, Assistant Serials Librarian; B.S., Denison University, 1963; A.M.L.S., University of Michigan, 1965.

MARGARET S. C. FENG, Assistant Cataloger; B.A., National Taiwan University, 1960; B.L.S., University of Ottawa Library School, 1963.

*ELIZABETH A. FORNEY, *Head, Reference Department*; A.B., Oberlin College, 1940; M.S.L.S., Drexel Institute School of Library Science, 1962.

CHARLES W. FOSLER III, Serials Assistant.

WILLARD T. FRAMPTON, Library Clerk.

NORMA E. HANDY, Cataloging Assistant.

RUTH E. HANNA, Assistant Acquisitions Librarian; A.B., Hanover College, 1939; M.S.L.S., Catholic University of America, 1961.

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LORRAINE S. HLAVIN, Serials Assistant.

*SIMONE C. HURST, Head, Circulation Department.

MARGARET M. JONES, *Cataloger*; A.B., Shaw University, 1947; M.S.L.S., Atlanta University School of Library Service, 1951.

CECILIA J. KYLER, Serials Assistant.

DENYSE B. LEVIN, Circulation Assistant, B.A., University of Maryland, 1966.

HANS-GUENTHER R. LISTFELDT, Serials Reference Librarian; B.S., Loyola College, 1956; M.S.L.S., Catholic University of America, 1961.

Luz V. Osores, Acquisitions Assistant.

ELIZABETH PALMER, Secretary to the Librarian.

SYDNAE M. ROUSE, Assistant Reference Librarian; B.S., Lebanon Valley College, 1964; M.L.S., University of Pittsburgh, 1966.

ELWOOD STERLING, Library Assistant.

^{*}Certified Medical Librarian.

Affiliated Institutions

Mercy Hospital

Mercy Hospital traces its history to the foundation of the Washington School of Medicine in 1824. In 1872 some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert Streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874 the Sisters of Mercy, upon the invitation of Washington School of Medicine, assumed responsibility for the Nursing Services of the hospital. In 1876, Washington University merged with the College of Physicians and Surgeons.

In 1888 the Sisters of Mercy, with the assistance of the Faculty of the College of Physicians and Surgeons, began construction of a new hospital adjacent to the earlier buildings. In 1909, the name of the institution was changed to "Mercy

Hospital."

Many additions have been made to the physical plant over the years. The present twenty-one story, modern hospital building opened in 1963. A new gastroenterological research laboratory was completed in 1965. A center for gastrointestinal endoscopy has also been established.

The hospital is very active in the teaching program of the medical school. Faculty members serve as fulltime heads of medicine, surgery, and pediatrics. Medical students rotate through the Mercy Hospital clinical services during the second,

third, and fourth years.

During the year ending December 31, 1965, there were 12,635 general admissions, 26,985 dispensary visits, 2,209 obstetrical deliveries, and 20,129 emer-

gency visits in the Accident Department.

The bed capacity is 333 plus 48 bassinets. All hospital beds are available for teaching purposes, 71 of them specifically as service beds. A School of Nursing, a School of Medical Technology, and a School of X-Ray Technology are conducted in conjunction with the hospital.

The James Lawrence Kernan Hospital and Industrial School of Maryland for Crippled Children

This institution is situated on an estate of 75 acres at Dickeyville. The site is within the northwestern city limits and of easy access to the city proper.

Its facilities are used to teach pediatric orthopedics to medical students and house officers.

A hospital unit, complete in every respect, offers all modern facilities for the

care of an orthopedic condition in children.

The hospital is equipped with 114 beds—endowed, and city and state supported. The orthopedic dispensary at the University Hospital is maintained in closest affiliation and cares for the cases discharged from the Kernan Hospital. The Physical Therapy Department is very well equipped with modern apparatus and trained personnel. Occupational therapy has been fully established and developed under trained technicians.



Baltimore City Hospitals

This is the only municipal hospital and has a bed capacity of 2,063. The departments of the hospital are: Anesthesiology, Chronic and Community Medicine, Dentistry, Medicine, Obstetrics and Gynecology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Psychiatry, Radiology, Surgery, and Tuberculosis.

The acute hospital has 425 beds and is devoted to the usual medical activities. The chronic hospitals, where physical rehabilitation is emphasized on all patients, are devoted to chronic and degenerative diseases, as well as tuberculosis.

There is a strong affiliation between the School of Medicine and the Departments of Obstetrics and Gynecology, Anesthesiology, Radiology, and Medicine. The heads of these departments as well as the clinical instructors are members of the University of Maryland School of Medicine faculty. They participate not only in teaching medical students, but are active in the planned programs for house staff education. The practical teaching of Obstetrics is carried out in this institution, while partial instruction in several areas of Medicine and Anesthesiology are under the directorship of the respective clinical department heads.

Maryland General Hospital

The Maryland General Hospital began humbly about 1883 at a location on Linden Avenue, north of Madison Street, with a capacity of 50 beds. Five years later, a college building (The Baltimore Medical College), was erected on Madison Street and a maternity service known as The Maryland-Lying-In Hospital opened on Linden Avenue contiguous to the main building. Three years later the Dental Building followed.

Early in 1911 came a radical change. The Baltimore Medical College, including its College of Dentistry, was consolidated with the University of Maryland. This left portions of two buildings tenantless and functionless. Then came three Methodist groups, federating their purses and courage in purchasing and oper-

ating a hospital.

Two campaigns for funds, two years apart, met a heartening response from people of all faiths. Debts were extinguished and mortgage bonds retired. Property improvements began on a large scale. Both buildings were soundly converted to hospital uses.

In 1921 a successful campaign was completed to construct a modern nurses'

home.

In July, 1954, a contract was entered into for the creation of a seven story building—the first phase of the building program—and was dedicated in December, 1956. The new building made possible the demolition of the old buildings.

The second phase of the program was completed in November, 1962.

The present bed complement is 385 plus 40 bassinets. In addition to increasing the bed capacity, construction of modern laboratories, recovery room, surgery, and x-ray departments, the new departments of an intensive care unit, a radioisotope laboratory, and cardio-pulmonary function laboratories were incorporated into this facility.

For the year 1965-1966, there were 13,422 admissions, 8,225 surgical pro-

cedures, and 1,931 obstetrical deliveries.

The Baltimore Eye, Ear and Throat Hospital has been merged with Maryland General and architectural drawings are complete for construction of a sevenstory facility for the Eye, Ear and Throat Division, to include a modern outpatient department capable of handling 35,000 visits annually. Completion is anticipated by February, 1968.

Eye Research Foundation of Bethesda

The Eye Research Foundation is affiliated with the Department of Ophthalmology, and is located at 8710 Old Georgetown Road in Bethesda. Research and clinical facilities are used for research and training programs.

Historical Sketch

The School of Medicine of the University of Maryland, the fifth medical school to be founded in the United States, filled a great need for such an institution in the Baltimore area. On December 18, 1807, the General Assembly of the State of Maryland passed "An Act for Founding a Medical College in the City or Precincts of Baltimore for the Instruction of Students in the Different Branches of Medicine." The philosophy of the founding fathers and the principles upon which the school was established have not changed. This is aptly expressed in the opening paragraphs of the Founding Act: "WHEREAS . . . it appears to the General Assembly that many benefits would accrue, not only to the State of Maryland but to many other parts of the United States, from the establishment of a seminary for the promotion of medical knowledge in the City of Baltimore, therefore, Be It Enacted . . . That a College . . . by the name of The College of Medicine of Maryland, be established . . . upon the following fundamental principles. . . . The said College shall be founded and maintained forever upon a most liberal plan, for the benefit of students of every country and every religious denomination, who shall be freely admitted to equal privileges and advantages of education, and to all the honors of the College, according to their merit, without requiring or enforcing any religious or civil tests."

The direction of the College of Medicine was vested in a Board known as "The Regents of the College" comprising the Board of Medical Examiners, the

President, and Professors of the College.

Dr. John Beale Davidge was selected as the first dean of the school. Under his farsighted leadership the original faculty formulated a new concept of medical education: "The science of medicine could not be successfully taught under the usual organization of medical schools: that without the aids of physiology and pathology, either associated with anatomy or as a separate chair of institutes, the philosophy of the body in sickness or in health could not be understood."

The first session of the College was not complete and lectures were delivered in the homes of Dr. Davidge, other members of the faculty, and at the Almshouse. From the beginning the School was fortunate in having patients at the Almshouse

for use in bedside teaching.

The first recorded public graduation was in 1810 with five graduates listed,

three from Maryland and two from Virginia.

At the end of 1807 there was, in Baltimore, a medical college with officers and faculty but no buildings or money. A lottery was authorized in the amount of \$10,000, which was subsequently increased to \$40,000. The faculty contributed what it could and interested citizens helped to raise funds with which to begin the school and provide for its maintenance.

The location selected for the College of Medicine was the northeast corner of Lombard and Greene Streets on property owned by Col. John Eager Howard of Revolutionary War fame. Mr. R. Cary Long, an eminent architect, drew plans for the beautiful replica of the Pantheon which stands today and houses the two old amphitheatres, the offices of the Dean, the Alumni Association, Postgraduate Committee, and other administrative offices. This building was first occupied late in the year of 1812. It is the oldest building in this country from which the degree of Doctor of Medicine has been granted annually since its erection. In this building one of the first medical school libraries in the United States was founded.

The Faculty and Regents endeavored constantly to improve the curriculum and teaching facilities. New faculty members were secured and new methods were introduced in the school. Dr. John Crawford, one of the new faculty members, vaccinated Baltimoreans against smallpox during 1800, while Dr. Waterhouse was doing the same for citizens of Boston. As early as 1810 he presented evidence that tuberculosis was contagious. His personal library became the nucleus of the present Medical School Library.

In 1812 the General Assembly authorized founding of the additional Schools of Law, Divinity, and Arts and Sciences. The University of Maryland School of Medicine was unique in the history of education, since the medical school

preceded the undergraduate and other professional schools.

The Baltimore Infirmary, the forerunner of the University Hospital, was built in 1823. The School was one of the first to have its own hospital for clinical instruction, and it was here that intramural residency for senior students was first established.

There were many "firsts" through the years. The study of human anatomy was recognized as basic for the acquisition of medical knowledge, but dissection was limited by the difficulty in obtaining bodies. The trustees recommended compulsory dissection as early as 1833, but the faculty did not enforce the recommendation until 1848, the first medical school in the country with such a requirement. Finally, enactment of the Anatomy Law provided unclaimed bodies to the medical schools for dissection (1882). At the College of Medicine of Maryland instruction was given in Dentistry (1837) and in the techniques of ausculation and percussion (1841) for the first time in America. In 1844 Dr. David Stewart, the first professor of pharmacy in the United States, initiated his lectures at the School, and compulsory courses in Experimental Physiology and Microscopy were introduced in 1854. The first independent chairs for teaching Diseases of Women and Children (1867) and Diseases of the Eye and Ear (1873) were established. Systematic clinical instruction in Nervous Diseases was instituted in 1869.

The Faculty and Regents recognized the need for medical education to include areas other than the sciences. In 1891 a rule was adopted which required each student to complete successfully a preliminary examination in English before being admitted.

At the time of the charter the course of instruction was only four months. In

1848 it was increased to four and a half months and attendance at two sessions was required. In 1891 the period of instruction was increased to three years and in 1896 all Doctor of Medicine candidates were required to complete a four year course of instruction.

Graduate programs were offered as early as 1860 and a special ten weeks summer course was given in 1870. These were the initial Postgraduate courses which have continued to the current era.

Honorary degrees have been conferred upon outstanding persons on rare occasions. The honorary M.D. degree conferred upon Dr. Ephraim McDowell by the University of Maryland School of Medicine in 1825 was his only degree. The Marquis de Lafayette was awarded the honorary degree of LL.D. during his visit to America in 1824.

The University of Maryland School of Medicine enjoys a rich heritage bequeathed by two other medical schools and their affiliated hospitals. Mergers with the Baltimore Medical College in 1913 and the College of Physicians and Surgeons in 1915 provided the University of Maryland School of Medicine with greatly expanded faculty and clinical facilities.

The state University was established in 1920 when the professional schools in Baltimore merged with the Maryland State College of Agriculture at College Park, Maryland. The state of Maryland assumed the financial obligation of all of the schools.

Throughout the many years since the Medical School's founding the prime emphasis has been placed on fitting men and women for the practice of medicine. Significant research contributions were made by many graduates although systematic programs of experimentation received greater emphasis in the later years, especially since the erection of the Bressler Research Laboratory in 1939–1940.

Women first entered the Medical School in 1921. There were six women in the 1922 class, two of whom completed the four year course of study. The School was integrated racially almost from the beginning and students of most races have completed the course of study and graduated.

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Department	Members	Alternates	Term Expires
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DR. VER	NON KRAHL	DR. C. G. CRISPENS, JR.	1967
DR. JOSE	EPH WELLS	DR. T. E. LEVEQUE	1969
Anesthesiology			
CC .	TIN L GOLD	DR JOHN M ATWOOD	1968

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Department Members	Alternates	Term Expires
Dielecient Charte		
Biological Chemistry DR. SEYMOUR POMERANTZ	DR. A. J. EMERY, JR.	1968
- III S- I III S - I I I I I I I I I I I	DR. A. J. EMERI, JR.	1700
Biophysics		
DR. RAYMOND A. SJODIN	DR. ALBERT HYBL	1969
Cell Biology and Pharmacology		
DR. RAYMOND BURGISON	DR. EDWARD B. TRUITT, JR.	1968
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	Admissions

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J. EDMUND BRADLEY, M.D., Professor of Pediatrics, Emeritus
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DIETRICH C. SMITH, PH.D., Professor of Physiology, Emeritus
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WALTER D. WISE, M.D., Professor of Otolaryngology, Emeritus
WALTMAN F. ZINN, M.D., Professor of Otolaryngology, Emeritus

Active

Anatomy

- Frank H. J. Figge, *Professor and Head of the Department;* B.A., Colorado College, 1927; Ph.D., University of Maryland, 1934.
- HARRY C. BOWIE, Associate in Clinical Anatomy; B.S., University of Maryland, 1933; M.D., 1936.
- OTTO C. BRANTIGAN, *Professor of Clinical Anatomy*; B.S., Northwestern University, 1931; M.D., 1934.
- MELVIN H. BULMASH, *Instructor*; B.A., Johns Hopkins University, 1946; D.D.S., University of Maryland School of Dentistry, 1950.
- CHARLES G. CRISPENS, JR., Associate Professor; B.S., Pennsylvania State University, 1953; M.S., Ohio State University, 1955; Ph.D., Washington State University, 1959.
- EDWARD J. DONATI, *Instructor*; B.A., King's College, 1951; Ph.D., University of Maryland, 1964. VERNON E. KRAHL, *Professor*; B.S., University of Pittsburgh, 1939; M.S., 1940; Ph.D., University of Maryland, 1946.
- Theodore F. Leveque, *Professor*; B.A., University of Denver, 1949; M.S., 1950; Ph.D., University of Colorado, 1954.
- E. G. LINHARDT, Instructor; M.D., University of Maryland School of Medicine, 1937.
- Jason M. Masters, *Instructor*; B.A., High Point College, 1951; M.S., Sul Ross State College, 1956, Ph.D., University of Maryland School of Medicine, 1965.
- ROBERT B. McFadden, *Instructor*; B.S., Loyola College, Baltimore, 1940; M.D., University of Maryland, 1943.
- KARL FREDERICK MECH, Associate Professor; B.S., University of Maryland, 1932; M.D., 1935.

NEIL NOVIN, *Instructor;* B.A., New York University, Washington Square College of Arts and Sciences, 1951; M.D., State University of New York, Downstate Medical Center, College of Medicine, 1955.

EDWARD H. POLLEY, Assistant Professor; A.B., DePauw University, 1947; M.S., St. Louis

University, 1949; Ph.D., St. Louis University, 1951.

FREDERICK J. RAMSAY, Assistant Professor; B.S., Washington and Lee University, 1958; M.S., University of Illinois, Chicago Professional Colleges, 1960; Ph.D., University of Illinois, Chicago Professional Colleges, 1962.

MARSHALL L. RENNELS, Assistant Professor; B.S., Eastern Illinois University, 1961; M.A., University of Texas, Medical Branch, 1964; Ph.D., University of Texas, Medical Branch,

1966.

WILLIAM BOOTH SETTLE, Assistant Professor of Clinical Anatomy; B.A., University of Pennsylvania, 1930; M.D., 1933.

GLADYS E. WADSWORTH, Assistant Professor; B.S., State Teachers College, 1936; M.A., Teachers College, Columbia University, 1942; Ph.D., University of Maryland School of Medicine, 1955.

WILLIAM WALLACE WALKER, Associate Professor of Clinical Anatomy; B.S., West Virginia University, 1921; M.D., University of Maryland, 1923.

JOBEPH WELLS, Assistant Professor, B.S., University of Rhode Island, 1956; Ph.D., Duke University, 1959.

Research Assistant
THOMAS A. BURNS

Graduate Student Assistants
G. Kenneth Adams
Edward W. Lampton, Jr.
C. Boyd Pfeiffer
Joel M. Snyder
Robert L. Strautz

CHARLES P. BARRETT
DANIEL A. DONAGHUE
JOSEPH JENCI
EDWARD W. LAMPTON, JR.
MARGARET L. OLIVIER
JOHN P. PETRALI
C. BOYD PFEIFFER
JOEL MYRON SNYDER
ROBERT L. STRAUTZ

Graduate Students Majoring in Anatomy G. Kenneth Adams

Fellows
G. Kenneth Adams

Anesthesiology

Martin Helrich, *Professor and Head of the Department;* B.S., Dickinson College, 1946; M.D., University of Pennsylvania, 1946.

JOHN M. ATWOOD, Assistant Professor; A.B., Washington and Lee, 1942; M.D., Washington University, 1945.

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PETER CHODOFF, Assistant Professor (part time); M.D., Jefferson Medical College, 1951.

GINA GLICK, Instructor; M.D., Loyola University, Stritch School of Medicine, 1956.

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JOHN A. JENICEK, Col. (MC), USA, Associate Professor (part-time); M.D., University of Illinois, 1946.

Y. VICTOR KENT, Instructor (part time); M.D., University of Istanbul, 1951.

RENEE LANDESMANN, Instructor (part time); M.D., Tulane University, 1961.

T. Crawford McAslan, *Instructor*; M.B., Ch.B., University of Glasgow, 1945; D.A., Royal College of Physicians of London and the Royal College of Surgeons of England, 1961. Alfred T. Nelson, *Clinical Professor*; M.D., University of Maryland, 1943.

JOHN W. PEARSON, Instructor; M.D., Oxford University School of Medicine, 1953.

JOSEPH S. REDDING, Associate Professor; A.B., University of North Carolina, 1943; M.D., University of Maryland, 1948.

Anthony Ruvolo, Instructor; M.D., University of Messina, Italy, 1949

CALBERT T. SEEBERT, Assistant Professor; M.D., Jefferson Medical College, 1951.

BEATRICE L. SELVIN, Assistant Professor; B.A., University of Michigan, 1942; M.D., New York Medical College, 1945.

Biological Chemistry

ELIJAH ADAMS, Professor and Head of the Department; B.A., Johns Hopkins University, 1938; M.D., University of Rochester, 1942.

SAMUEL P. BESSMAN, Professor (part time); M.D., Washington University, 1944.

Vernon C. Bode, Assistant Professor; B.S., University of Missouri, 1955; Ph.D., University of Illinois (Urbana), 1961.

ANN VIRGINIA BROWN, Instructor; A.B., Goucher College, 1940.

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Rosa M. Gryder, *Instructor*; B.S., Bucknell University, 1947; M.S., Yale University, 1949; Ph.D., Johns Hopkins University, 1955.

MARY E. KIRTLEY, Assistant Professor; B.A. University of Chicago, 1957; M.A., Smith College, 1958; Ph.D., Western Reserve, 1964.

ENNIS C. LAYNE, Assistant Professor (part time); B.S., George Washington University, 1950; M.S., 1953; Ph.D., 1955.

SEYMOUR POMERANTZ, Associate Professor; B.A., Rice Institute, 1948; Ph.D., University of Texas, 1952.

Research Associate

YUNG-FENG CHANG, M.S., PH.D.

Research Assistants Sandra J. Antoine, B.S. Gloria R. Rosso, M.S.

KIKUKO TAKASHIMA, M.S.

Fellows

SISTER DENISE EBY, M.S.

THOMAS H. FINLAY, B.S. AIDA GOLDSTEIN, M.S. DENNIS P. HARRISON, B.S. DENNIS HINTON, B.S.

LILLY LI, B.S.

PATRICIA E. LOW, M.S. VADIRAJA V. MURTHY, B.S. NANCY STERNBERGER, B.S.

Biophysics

LORIN J. MULLINS, *Professor and Chairman of the Department;* B.S., University of California, 1937; Ph.D., 1940.

RAYMOND A. SJODIN, *Professor*; B.S., California Institute of Technology, 1951; Ph.D., University of California, 1955.

ALBERT HYBL, Assistant Professor; B.A., Coe College, 1954; Ph.D., California Institute of Technology, 1961.

ANTONIO S. FRUMENTO, Visiting Professor of Biophysics; M.D., University of Buenos Aires, 1955.

Fellows

ANN L. ABELES, Fellow
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PAUL J. DE WEER, Postdoctoral Fellow
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HIROSHI KITASATO, Postdoctoral Fellow
SISTER MARY BLANCHE, Fellow
WALTER A. PANGBORN, Fellow
LAWRENCE S. ROSEN, Fellow
JAMES M. WIDEMAN, Postdoctoral Fellow

Cell Biology and Pharmacology

H. VASKEN APOSHIAN, *Professor and Head of the Department;* B.S. Brown University, 1948; M.S. University of Rochester, 1950; Ph.D., 1953.

Frederick Keller Bell, Research Associate, A.B., Johns Hopkins University, 1916; Ph.D., 1920. Raymond Merritt Burgison, Professor, B.S., Loyola College, 1945; M.S., University of Maryland, 1948; Ph.D., 1950.

C. JELLEFF CARR, Adjunct Professor; B.S., University of Maryland, 1933; M.S., 1934; Ph.D., 1937.

HELMUT FREIMUND CASCORBI, Assistant Professor; M.D., University of Munich, 1955; Ph.D., University of Maryland, 1962.

JOHN C. KRANTZ, JR., Professor, Emeritus; B.S., University of Maryland, 1923; M.S. 1924; Ph.D. 1928; Emeritus, 1965.

RUTH D. MUSSER, Assistant Professor, Emeritus; B.A. Goucher College, 1917; M.S., University of Maryland, 1931; Emeritus, 1965.

JOHN JOSEPH O'NEILL, Associate Professor; B.S., St. Francis College, 1942; M.S., University of Maryland, 1953; Ph.D., 1955.

FRIEDA G. RUDO, Assistant Professor; A.B. Goucher College, 1944; M.S., University of Maryland; Ph.D., 1963.

EDWARD BYRD TRUITT, JR., *Professor*; B.S., Medical College of Virginia, 1943; Ph.D., University of Maryland, 1950 (on leave of absence—1967).

Fellows, Research Assistants,

and Associates

JAMES P. BURNS, Fellow SYLVIA L. POLLACK, Associate

IRWIN A. HAYMAN, Fellow
FRANCIS J. MEYER, Fellow
THEODORE S. WANG, Ph.D., Postdoctoral Fellow

International Medicine

CHRISTIAN R. KLIMT, Professor and Head of the Department; Director, Division of Epidemiology and Biostatistics; M.D., University of Vienna, 1944; M.P.H., Johns Hopkins, 1952; Dr.P.H., Johns Hopkins, 1959.

RONALD L. ANTHONY, Research Associate; B.A., Susquehanna University, 1961; Ph.D., University of Kansas, 1965.

MOHAMMED A. AZIZ, Assistant Professor; M.B.B.S., Dacca University, 1954; Ph.D., University of Minnesota, 1963.

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HERBERT C. BARNETT, Professor and Director, Division of Medical Entomology and Ecology; B.S., Cornell University, 1939; M.S., University of Minnesota, 1946; M.P.H., University of Pittsburgh, 1953; Ph.D., University of Pittsburgh, 1954.

FATIMA BEGUM, Research Associate; B.S., University of Karachi, 1958; M.S., University of London, 1960; Ph.D., University of London, 1963.

HENRY N. BUSCHER, Research Associate; B.S., Kansas State College, 1961; M.S., University of Oklahoma, 1963; Ph.D., University of Oklahoma, 1965.

Paul L. Canner, Research Associate; B.A., University of Minnesota, 1960; M.S., University of Minnesota, 1962; Ph.D., University of Minnesota, 1965.

DAVID F. CLYDE, Associate Professor; B.A., University of Kansas, 1946; M.D., McGill University, 1948; D.T.M.H., London School of Hygiene and Tropical Medicine, 1952; Ph.D., University of London, 1963.

MICHAEL J. DONNELLY, JR., Research Programmer of International Medicine; B.S., Mt. St. Marys College, 1964.

JOHN E. GEORGE, Assistant Professor; B.S., West Texas State University, 1957; M.S., Texas Technological College, 1960; Ph.D., University of Kansas, 1964.

A. James Haley, *Professor*; B.S., University of New Hampshire, 1949; M.S., University of New Hampshire, 1950; Sc.D., Johns Hopkins University, 1955.

- GORDON G. HEINER, Research Associate; A.B., Harvard University, 1948; M.A., School of Advanced International Studies, 1949; M.D., Temple University, 1965.
- ELIZABETH CATHERINE HEINZ, Instructor; B.A., Goucher College, 1951.
- IRWIN I-PO HO, Research Associate; B.A., National Taiwan University, 1953; M.A., University of Minnesota, 1962.
- GENELL L. KNATTERUD, Assistant Professor; B.A., Macalester College, 1952; M.S., University of Minnesota, 1959; Ph.D., University of Minnesota, 1963.
- WITOLD E. KUCHARSKI, Assistant Professor; M.D., University Central de Venezuela, 1956. VINCENT C. McCarthy, Research Associate; B.A., University of Toronto, 1953; M.S.,
- University of Maryland, 1961.

 FRED R. McCrumb, Jr., Professor and Director, Pakistan Medical Research Center; M.D., University of Maryland, 1948.
- Curtis L. Meinert, Assistant Professor; B.S., University of Minnesota, 1956; M.S., University of Minnesota, 1959; Ph.D., University of Minnesota, 1964.
- GARDNER MIDDLEBROOK, Professor and Director, Division of Experimental Pathology; A.B., Harvard University, 1938; M.D., Harvard Medical School, 1944.
- Монамер Мијевв, *Research Associate;* В.S., Osmania University, 1954; М.В.В.S., Osmania Medical College, 1960.
- LT. COL. NUR AHMAD, A.M.C., Professor; M.B.B.S., Punjab University, 1953; M.C.,
- Path. (London), 1964.

 SURESH C. RASTOGI, Research Associate; B.S., Lucknow University, 1955; M.S., Lucknow University, 1960; Ph.D., University of Iowa, 1966.
- RICHARD G. ROBERTSON, Research Associate; B.S., Brigham Young University, 1959; M.S., Brigham Young University, 1962.
- AKIRA SASAKI, Research Fellow; M.D., Osaka University, 1955.
- SYED A. S. SHAH, Research Associate; B.S., University of Karachi, 1956; D.C.H., London, 1962; E.C.F.M.G., 1962.
- Col. Ross F. Swall, Research Associate; B.S., Oregon State College, 1945; M.A., Baylor University, 1958
- O. CHARLES TACK, JR., Research Programmer of International Medicine; B.S., United States Naval Academy, 1957.
- DAVID B. THOMAS, Research Associate; B.S., University of Washington, 1959; M.D., University of Washington, 1963.
- MARILYN A. WILSON, *Research Assistant;* R.N., Bethesda Hospital School of Nursing, 1954. YOU-YEN YANG, *Research Associate;* B.S., National Taiwan University, 1958; M.S., Kansas State University, 1965.
- PROSPERO ZEVALLOS, Research Fellow; M.D., San Marcos University, 1957.

Medicine

- THEODORE E. WOODWARD, *Professor of Medicine and Head of the Department;* B.S., Franklin and Marshall College, 1934; M.D., University of Maryland, 1938; D.Sc., (Hon.), Western Maryland College, 1950; D.Sc., (Hon.), Franklin and Marshall College, 1954.
- CONRAD B. ACTON, Associate in Medicine; B.S., Haverford College, 1925; M.D., Johns Hopkins University, 1929.
- GEORGE N. AGAPITOS, Associate in Medicine; M.D., University of Athens (Greece), 1948.
- ANDRES W. ANDERSON, Assistant; D.D.S., University of Maryland, 1921; M.D., 1929.

 REUBIN ANDRES, Associate Professor of Medicine; M.D., Southwestern Medical College, 1944.
- ALBERT M. ANTLITZ, *Instructor in Medicine*; B.S., Georgetown University, 1951; M.D., 1955. LEON ASHMAN, *Associate in Medicine*; B.S., College of the City of New York, 1927; M.D., University of Maryland, 1932.
- MONZER ATTAR, Instructor in Medicine; B.S., American University of Beirut, 1957; M.D., 1961.
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RAYMOND F. HELFRICH, Associate in Surgery; A.B., Loyola College, 1927; M.D., University of Maryland, 1931.

CHARLES MORGAN HENDERSON, Instructor in Neurological Surgery; B.S., University of Maryland, 1955; M.D., 1957.

THELMA HILGER, Instructor in Audiology; B.A., University of Iowa, 1950; M.S., University of Pittsburgh, 1952.

WILLIAM ADDISON HOLBROOK, Assistant in Surgery; B.S., University of Maryland, 1942; M.D., 1945.

T. Brannon Hubbard, Jr., Assistant Professor of Surgery; B.A., Princeton University, 1938; M.D., Columbia University, 1942; Ph.D., University of Minnesota, 1952.

HARRY CLAY HULL, Professor of Clinical Surgery; M.D., University of Maryland, 1932. Benjamin Herbert Isaacs, Assistant Professor of Otolaryngology; A.B., Johns Hopkins University, 1932; M.D., University of Maryland, 1936.

EVERETT D. JONES, Instructor in Orthopedic Surgery; B.S., Western Maryland College, 1938; M.D., University of Maryland, 1927.

CLYDE F. KARNS, Instructor in Surgery; B.S., St. John's College, 1922; M.D., University of Maryland, 1927.

LEILA RAE KIRKLEY, Instructor in Audiology; B.S., Ball State University, 1963; M.A., Northwestern University, 1964.

EDWARD ANDREW KITLOWSKI, Clinical Professor of Plastic Surgery; B.S., Bucknell University, 1917; M.D., Johns Hopkins University, 1921.

HOWARD CALVIN KRAMER, Instructor in Urology; M.D., University of Maryland, 1951.

HENRY E. LANGENFELDER, Assistant in Surgery; B.A., Johns Hopkins University, 1947; M.D., Hahnemann Medical College, 1951.

JOHN DOUGLAS LEBOUVIER, Instructor in Orthopedic Surgery; B.S., London University, 1952; M.B., 1952.

EUGENE JOSEPH LINBERG, Associate Professor of Thoracic Surgery; A.B., Duke University, 1944; M.D., 1948.

F. FORD LOKER, Associate in Surgery; B.S., University of Maryland, 1937; M.D., 1940.

WILLIAM B. LONG, Associate in Postgraduate Surgery; B.S., Princeton University, 1940; M.D., Johns Hopkins University, 1943.

WILLIAM DAWSON LYNN, Instructor in Surgery; B.A., University of Maryland, 1934; M.D., 1937.

ARLIE R. Mansberger, Jr., Associate Professor of Surgery; M.D., University of Maryland, 1947.

HOWARD BROOKS MAYS, Assistant Professor of Urology; M.D., University of Maryland, 1935. Howard B. McElwain, Assistant in Surgery; M.D., University of Maryland, 1919.

- JOSEPH S. McLAUGHLIN, Assistant Professor in Thoracic Surgery; B.S., Loyola College, 1954; M.D., University of Maryland, 1956.
- KARL FREDERICK MECH, Assistant Professor of Surgery; B.S., University of Maryland, 1932; M.D., 1935.
- JOHN E. MILLER, *Instructor in Surgery*; B.A., Pennsylvania State University, 1938; M.D., Jefferson Medical College, 1942.
- Joseph M. Miller, Associate in Surgery; A.B., Columbia University, 1931; M.D., University of Minnesota, 1939.
- KIRK MOORE, Assistant in Surgery; A.B., Princeton University, 1941; M.D., Johns Hopkins University, 1944.
- THOMAS H. MORGAN, Assistant Professor of Orthopedic Surgery, M.B., Cambridge University, 1943; M.D., University College Hospital, Medical School, London, 1945.
- WILLIAM H. Mosberg, Jr., Associate Professor of Neurological Surgery; B.S., University of Maryland, 1942; M.D., 1944.
- RALPH D. NATALE, Instructor in Otolaryngology; A.B., Johns Hopkins University, 1955; M.D., University of Maryland, 1959.
- James Wharton Nelson, *Professor of Clinical Surgery*; A.B., St. John's College, 1918; M.D., University of Maryland, 1925.
- NEIL NOVIN, *Instructor in Surgery*; B.A., New York University, 1951; M.D., State University of New York, 1955.
- THOMAS R. O'ROURK, Professor of Otolaryngology; M.D., University of Maryland, 1921.
- Frank Joseph Otenasek, *Instructor in Neurological Surgery*; A.B., Loyola College, 1933; M.D., Johns Hopkins University, 1937.
- Daniel James Pessagno, *Professor of Clinical Surgery*; B.A., Rock Hill College, 1916; M.D., University of Maryland, 1920.
- PATRICK CAREY PHELAN, JR., Associate in Surgery; B.A., Loyola College, 1935; M.D., University of Maryland, 1942.
- Ross Z. Pierpont, Assistant in Surgery; B.S., University of Maryland, 1939; M.D., 1940.

 HARRY PRIMROSE PORTER Assistant in Otologyngology: A.B. Johns Hopkins University
- HARRY PRIMROSE PORTER, Assistant in Otolaryngology; A.B., Johns Hopkins University, 1939; M.D., 1943.
- James Richard Powder, *Instructor in Urology*; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.
- WILLIAM BENJAMIN REVER, JR., Associate in Surgery; M.D., University of Maryland, 1950. JOHN DAVID ROSIN, Associate in Surgery; B.S., Johns Hopkins University, 1938; M.D., University of Maryland, 1942; M.S., University of Minnesota, 1952.
- C. Parke Scarborough, Clinical Associate Professor of Plastic Surgery; B.S., Pennsylvania State College, 1933; M.D., University of Maryland, 1937.
- IRVING SCHERLIS, Assistant in Urology; A.B., Johns Hopkins University, 1940; M.D., University of Maryland, 1943.
- THEODORE ALLISON SCHWARTZ, Assistant Professor of Otolaryngology; Ph.G., University of Maryland, 1930; B.S., 1932; M.D., 1934.
- WILLIAM BOOTH SETTLE, Associate in Surgery; A.B., University of Pennsylvania, 1930; M.D., 1933
- JOHN OLIVER SHARRETT, Instructor in Neurological Surgery; M.D., University of Maryland, 1952.
- ARTHUR GEORGE SIWINSKI, Assistant Professor of Surgery; A.B., Johns Hopkins University, 1927; M.D. University of Manyland, 1931
- 1927; M.D., University of Maryland, 1931. EDWIN HARVEY STEWART, JR., Associate in Surgery; M.D., University of Maryland, 1943.
- Frederck Louis Stichel, Jr., Assistant in Otolaryngology; B.S., University of Maryland, 1934; M.D., 1944.
- WILLIAM JOSEPH SUPIK, Associate in Surgery; B.S., University of Maryland, 1940; M.D., 1940. JOHN J. TANSEY, Associate in Orthopedic Surgery; A.B., Brown University, 1942; M.D., University of Maryland, 1945.
- NORMAN TARR, Instructor in Surgery; B.S., Washington College, 1944; M.D., University of Maryland, 1948.

RAYMOND K. THOMPSON, Associate Professor of Neurological Surgery; B.S., University of Maryland, 1937; M.D., 1941.

W. HOUSTON TOULSON, M.D., Professor of Urology, Emeritus.

ALLEN FISKE VOSHELL, Professor of Orthopedic Surgery, Emeritus; A.B., Johns Hopkins University, 1915; M.D., 1919.

WILLIAM WALLACE WALKER, Associate Professor of Surgery; B.S., University of West Virginia, 1921; M.D., University of Maryland, 1923.

ISRAEL HOWARD WEINER, Instructor in Neurological Surgery; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.

HAROLD R. WEISS, Instructor in Orthopedic Surgery; B.S., University of Maryland, 1952; M.D., 1954.

EDWARD F. WENZLAFF, Assistant in Orthopedic Surgery; A.B., Columbia College, 1948; M.D., University of Buffalo, 1954.

JOHN P. WHITE III, Instructor in Surgery; M.D., University of Maryland, 1947.

ALFRED K. WIEDMAN, *Instructor in Orthopedic Surgery*; M.D., University of Heidelberg, 1956. HANS R. WILHELMSEN, *Instructor in Plastic Surgery*; D.D.S., University of Maryland, 1955; M.D., University of Maryland, 1959.

DAVID REID WILL, Instructor in Surgery; M.D., University of Maryland, 1943.

WALTER D. WISE, M.D., Professor of Surgery, Emeritus.

GEORGE HERSCHEL YEAGER, *Professor of Clinical Surgery*; B.S., University of West Virginia, 1927; M.D., University of Maryland, 1929.

JOHN DAVID YOUNG, JR., Professor of Urology and Head, Division of Urological Surgery; B.A., Bridgewater College, 1938; M.D., University of Maryland, 1941. WAITMAN F. ZINN, M.D., Professor of Otolaryngology, Emeritus.

Consultants, Fellows, Research Fellows, and Research Assistants
ILSE H. HAWTHORNE, Research Assistant in Thoracic Surgery.
AMIR H. KHAZEI, Research Instructor in Thoracic Surgery.

WILLIAM H. KIRBY, JR., Research Associate in Thoracic Surgery.

DAVID N. KRAMER, Research Associate in Surgery.

ELWOOD LA BROSSE, Research Associate Professor in Thoracic Surgery.

CESLOVAS MASAITIS, Research Associate in Thoracic Surgery. PAULO P. MENDONCA, Research Associate in Urology. ROBERT M. OLLODART, Research Associate in Surgery.

DORCAS H. PADGET, Research Associate in Neurosurgery.

ZOUHEIR SHAMA, Research Fellow in Thoracic Surgery.

CHAWALIT SUDDHIMONDALA, Research Fellow in Thoracic Surgery.

HENRY B. TINGEY, Consultant-Biostatistician in Thoracic Surgery.

Lecturers
James L. Beeby
Harlan W. Nietfeld
John P. O'Reilly

Organization of the Curriculum and Courses of Instruction

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ANATOMY

Professors: FIGGE (HEAD OF DEPARTMENT), BRANTIGAN, KRAHL, AND LEVEQUE.

Associate Professors: CRISPENS, MECH, AND WALKER.

Assistant Professors: POLLEY, RAMSAY, RENNELS, SETTLE, WADSWORTH, AND WELLS.

Lecturer: HEARN.

Instructors: BULMASH, DONATI, LINHARDT, MASTERS, MCFADDEN, AND NOVIN.

Associate: BOWIE.

ANAT. 101. GROSS ANATOMY. (187)

First year, second semester. The course gives the student an opportunity to develop a basic concept of the morphology of the human body. The dissecting experience for each student will be limited to the back, central nervous system, the thorax, abdomen and pelvis. The dissection of the head and extremities will be done simultaneously and involve cross-demonstrations of structures. Some lectures will be devoted to roentgen anatomy and some to practical clinical aspects of anatomy.

ANAT. 102. MICROANATOMY. (187)

First year, first semester. The course presents an integrated study of the histology and embryology of the human body. Near the end of the semester, the human infant will be dissected as a continuation of the course in embryology. Insofar as possible, the course will be correlated with the neurosciences course and with biochemistry and physiology.

ANAT. 103. NEUROLOGICAL SCIENCES. (132)

First year, first and second semesters. This course combines all of the neurological subjects taught in all years of the medical curriculum. In the first year it consists primarily of the integrated course of neuroanatomy and neurophysiology with additional contributions from neurology, neuropathology, neurosurgery and electroencephalography. The structure and function of the central nervous system will be presented simultaneously. The course will involve dissections of the human brain, examination of stained microscopic sections of various levels of the brain stem and laboratory experience involving the study of functional aspects of the nervous system.

ANAT. 105. GENETICS. (17)

First year, first semester. This course consists of a series of one-hour lectures which include a consideration of the principles of genetics, population genetics, biochemical genetics, radiation genetics, immunogenetics, and microbial genetics. Special emphasis is placed on the importance, understanding, and application of genetics to health and disease.

ANAT. 106. CORRELATIVE ANATOMY. (17) ELECTIVE

Each week during the first year, patients will be demonstrated and the anatomical features of the case will be stressed to give the student a concept of the relationship of the anatomy to clinical subjects. While there are no examinations in this course the examinations in the other courses in anatomy will involve questions on the material presented.

FOR GRADUATES

The graduate degrees offered by the Department of Anatomy are the Master of Science and the Doctor of Philosophy.

ANAT. 201. GENERAL ANATOMY OF THE HUMAN BODY. (9)

Same course as Anat. 101, but on a more advanced level. It can be taken by graduate as well as postgraduate students. Laboratory fee, \$25.00. (Figge, staff)



ANAT. 202. MICROANATOMY. (6)

Same course as Anat. 102, but on a more advanced level. Laboratory fee, \$15.00.

(Figge, Leveque, Crispens)

ANAT. 203. NEUROLOGICAL SCIENCES. (4)

Same course as Anat. 103, but with additional work of a more advanced nature. Laboratory fee, \$15.00.

ANAT. 205. GENETICS. (2)

Same course as Anat. 105, but on a more advanced level.

(Crispens)

ANAT. 206. CORRELATIVE ANATOMY. (1)

Same course as Anat. 106, but examinations will be given.

(Figge, staff)

ANAT. 207. FETAL AND INFANT ANATOMY. (2)

First semester, fifteen periods of three hours each, to be arranged. This course is open to graduate students and postgraduates interested in pediatrics. Laboratory fee, \$10.00.

(Krahl)

ANAT. 208. STUDIES ON NORMAL AND ATYPICAL GROWTH. (2)

Lectures in problems of growth. Two hours per week, time to be arranged. Sixteen weeks.

ANAT. 209. MORPHOLOGICAL MICROTECHNIQUES. (2)

Second semester. One lecture and two laboratory hours a week for one semester. The aim of this course is to study the theoretical and practical applications of a variety of microanatomical techniques and their utilization in research. Time to be arranged.

ANAT. 210. SPECIAL PROBLEMS IN NEUROANATOMY. (2)

This course will deal with specific problems in the field of neuroanatomy, depending on the interests of the sponsor. It will consist of lectures, seminars, and specific laboratory assignments. (Figge, Staff)

ANAT. 399. RESEARCH IN ANATOMY.

Maximum credits, 12 per semester. Research work may be taken in any one of the branches of anatomy. (Figge, Staff)

ANESTHESIOLOGY

Professor: HELRICH (HEAD OF DEPARTMENT).

Associate Professors: GOLD AND STAFF.

During the first two years, the Department of Anesthesiology presents several lectures in the courses taught by the various preclinical departments. These lectures are intended to illustrate the application of the basic sciences to the clinical practice of anesthesiology. Emphasis is placed upon the physiologic and pharmacologic aspects of preanesthetic medication, choice of anesthesia, and management of patients during surgery.

ANES. 101. INTRODUCTION TO ANESTHESIOLOGY.

Third year. The third year class is given a series of one hour lectures dealing with preoperative preparation and inhalation, local and spinal anesthesia. An effort is made to correlate the basic sciences with their clinical application.

ANES. 102. Introduction to Anesthesiology.

Fourth year. Each senior student spends two weeks in the operating rooms of the University Hospital or one of its affiliated hospitals administering anesthesia. Informal group meetings are held to emphasize factors affecting the anesthetic management of

patients and to discuss pertinent anesthetic problems. The students also attend the regularly scheduled staff conferences in Anesthesiology.

ART AS APPLIED TO MEDICINE

THOMAS M. STEVENSON, JR., Director

This Department is maintained to supply teaching aids for the School of Medicine faculty.

The three primary services are illustration, photography, and offset printing. Illustration includes statistical charts, illustrative charts, surgical and clinical techniques, and displays. Photography covers surgical and clinical needs, copying, photomicrography, and motion pictures. Offset printing is maintained for the

BIOLOGICAL CHEMISTRY

mass production of copy material.

Professors: ADAMS (HEAD OF DEPARTMENT) AND BESSMAN (PART TIME).

Associate Professors: EMERY AND POMERANTZ.

Assistant Professors: BODE, KIRTLEY, AND LAYNE (PART TIME).

Instructors: BROWN AND GRYDER.

Associate: CHANG.

FOR MEDICAL STUDENTS

Biochemistry, as an introduction to the later preclinical subjects and to clinical studies, is presented within *Basic Med. Sci. 102*, running throughout the first year. During the first semester emphasis is on biophysics, biochemistry, and general physiology, whereas mammalian physiology occupies most of the second semester. The biochemistry portion of this course is oriented toward mammalian metabolism and enzymology, but also stresses general and comparative biochemistry. A limited number of formal laboratory exercises are designed to introduce basic concepts and techniques in biochemistry. Most of the assigned laboratory time will be devoted to tutorial work under a faculty member from one of the participating departments, as described under the first-year program.

All graduate courses as well as research opportunities are open to properly

qualified medical students who may enroll either formally or informally.

FOR GRADUATE STUDENTS

The graduate degree offered is Doctor of Philosophy.

Biochemistry 201. (6) This will include the lectures of the first semester of Basic Med. Sci. 102, together with a sequence of approximately 20 lectures given in the second semester, representing an interdepartmental (Physiology and Biological Chemistry) survey of endocrinology. Formal laboratory exercises are those given by Biological Chemistry during the first semester.

Biochem. 202, 203. Special Topics in Biochemistry (2, 2) A series of faculty lectures and/or student seminars on major topics of current biochemical interest. Subjects reviewed in 1965–1966 included sugar nucleotides, transaminases, lipid metabolism, and enzyme induction and repression. The subject for the first semester of 1966–1967 was regulation of enzyme synthesis and activity.

Prerequisite, Basic Med. Sci. 102, or Biochem. 201 or equivalent.

Biochem. 204, 205. Seminar (1, 1) Reports on current literature or research in progress. Prerequisite, same as Biochem. 202, 203.

Biochem. 399. Research. Maximum credits, 12 hours per semester.

BIOPHYSICS

Professors: MULLINS (CHAIRMAN OF DEPARTMENT) AND SJODIN. Assistant Professor: HYBL.

The Department of Biophysics offers graduate courses of study leading to the degrees of Master of Science and Doctor of Philosophy. The study programs are flexible and depend on the preparation and interests of the student. Detailed requirements are available from the department of Biophysics.

It is recommended that students studying for the degree of Doctor of Philosophy

in Biophysics select a minor in either physics, chemistry, or mathematics.

A number of fellowships are available for beginning students; after the first year of graduate study, research assistantships are available. Inquiries should be directed to the department; deadline for applications is March 1.

FOR GRADUATES AND ADVANCED UNDERGRADUATES

BIOPHYS. 100, 101. INTRODUCTION TO BIOPHYSICS. (3, 3)

Fall semester, odd years: Spring semester, even years. Three lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 18, 19. An introduction to the study of living systems applying the methods of physics and chemistry. The cell as a physicochemical system and experimental methods for investigation, nerve impulse conduction and excitation, the interaction of radiation with living material; the structure and properties of muscle tissue, connective tissue, and their proteins. (Staff)

BIOPHYS. 102. BIOPHYSICS OF RADIATION. (2)

Fall semester, even years. Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11. An advanced study of the interaction of radiation with living matter and with molecules of biological interest. Dosimetry problems and some bio-medical applications will be considered. (Mullins, Sjodin, Robinson)

BIOPHYS. 103. LABORATORY TECHNIQUES IN BIOPHYSICS. (3)

Fall semester, 1967–1968. One lecture and two laboratory periods a week. Prerequisites, Biophys. 100, 101, or consent of the staff. Training in the use of radioactive isotopes, radioactive counting equipment, and bioelectric measuring instruments applied to the study of membranes; viscosity, optical rotation, protein titrations, spectroscopy, conductivity, as applied to fiber forming proteins. Laboratory fee, \$20.00. (Staff)

BIOPHYS. 104. SEMINAR IN BIOPHYSICS. (1)

Prerequisites, Biophys. 100, 101, or consent of the staff. Seminars on various biophysical topics given by the staff, graduate students, and guest speakers. (Staff)

FOR GRADUATES

BIOPHYS. 200. ADVANCED AND THEORETICAL BIOPHYSICS. (3)

Fall semester, odd years. Three lectures a week. Prerequisites, Biophys. 100, 101, or consent of staff. An advanced and critical analysis of experimental findings in terms biophysical theory. (Staff)

BIOPHYS. 201. MEMBRANE BIOPHYSICS. (2)

Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 20, 21. Diffusion in and through membranes developed from first principles with special reference to problems of ion transport in biological membranes. (Sjodin)

BIOPHYS. 202. BIOPHYSICAL CHEMISTRY. (3)

Three lectures a week. Prerequisites, Physical Chemistry, Differential and Integral Calculus. The application of physicochemical theory to the methods used to study the properties of proteins, nucleic acids, and other macromolecules and their component

parts, and the properties of the fibers and other biological fabrics derived from these macromolecules. The properties of interest will include molecular weight, size, shape and charge, intramolecular configuration, and intermolecular interaction. The methods of interest will include light scattering, ultracentrifuge, viscosity and other hydrodynamic methods, optical rotation and rotary dispersion.

BIOPHYS. 203. X-RAY CRYSTALLOGRAPHY. (3)

Three lectures a week. An introduction to molecular structure determination by the techniques of x-ray diffraction. Emphasis upon problems arising in structural studies of molecules of biological origin.

BIOPHYS. 205 COLLOQUIUM IN BIOPHYSICS. (1)

Prerequisites, Biophys. 104 or consent of the staff. Colloquia on various biophysical topics given by the staff, graduate students and guest speakers. (Staff)

BIOPHYS. 399. RESEARCH IN BIOPHYSICS. (3-6)

Required of students planning to take the Master of Science degree or the Doctor of Philosophy degree in Biophysics. (Staff)

CELL BIOLOGY AND PHARMACOLOGY

Professors: APOSHIAN (HEAD), BURGISON, KRANTZ (EMERITUS), AND TRUITT. Associate Professor: O'NEILL.

Assistant Professors: CASCORBI, MUSSER (EMERITUS), AND RUDO.

PHARMACOL. 101. MEDICAL PHARMACOLOGY. (233)

Second year. The purpose of this course is to present the interactions of therapeutic and other agents with biological systems ranging from isolated enzyme systems through more complex systems, including animals and man.

FOR GRADUATES

The graduate program in Cell Biology and Pharmacology is designed for students seeking the degree of Doctor of Philosophy. For students studying for the degree of Doctor of Medicine, a program is available for continued study and research toward a Ph.D.

Pharmacol. 201. F. S. General Pharmacology. (9)

Same as 101, for students majoring in pharmacology. Additional instruction and collateral reading are required. Laboratory fee, \$20.00.

PHARMACOL. 205. RESEARCH.

Maximum credits, 12. Credit in accordance with the amount of work accomplished.

PHARMACOL. 206. PHARMACOLOGIC METHODS.

Maximum credits, 4. Credit in accordance with the work accomplished.

Pharmacol. 207, 208. Chemical Aspects of Pharmacodynamics. (2, 2)

PHARMACOL. 209. BIOCHEMICAL PHARMACOLOGY. (2)

PHARMACOL. 210. HISTORY OF PHARMACOLOGY. (2)

INTERNATIONAL MEDICINE

Professors: KLIMT (HEAD OF DEPARTMENT), BARNETT, HALEY, MC CRUMB, MIDDLE-BROOK, AND NUR AHMAD.

Associate Professors: CLYDE.

Assistant Professors: BAKER, GEORGE, KNATTERUD, KUCHARSKI, AND MEINERT.

International Centers for Medical Research and Training were created under the aegis of the National Institutes of Health in accordance with objectives of the International Health Research Act of 1960 (Public Law 86-610, July 12, 1960). It was the purpose of this act to advance the status of international health research and research training. Congress further expressed the hope that "a program through United States universities for the early development of research and research training centers with adequate field opportunities for international studies" would be established. This program under the direction of the Office of International Research of the National Institutes of Health provided for the establishment of a research and research training center at the University of Maryland School of Medicine in Baltimore in March of 1961. During the course of the past five years, the University of Maryland International Center for Medical Research and Training has succeeded in the establishment of domestic and overseas researchtraining programs in Baltimore, Maryland, and Lahore, West Pakistan, with the following objectives:

1. To offer research training in international health problems to American physicians and allied professional workers as well as their Pakistani

counterparts.

2. To conduct medical and allied research at the domestic and overseas sites; the mechanisms for such training.

3. To create, through scientific endeavors, an atmosphere of mutual understanding and friendship between the host nation and the United States.

In July of 1963 international health activities of the University of Maryland were consolidated under an Institute of International Medicine with departmental status within the School of Medicine. Under the present administrative arrangement, the International Center for Medical Research and Training forms the nucleus of the Institute into which other international and domestic programs are incorporated.

The Institute of International Medicine is composed of Divisions of Epidemiology and Biostatistics, Experimental Pathology, Nutrition, Medical Entomology and Ecology, Virology and Rickettsiology, and Clinical Investigation, and derives major support in addition from the Departments of Microbiology, Medicine,

and Pediatrics.

EDUCATIONAL PROGRAM

The Research Associate program of the International Center provides for postdoctoral training in the various disciplines represented within the Institute of International Medicine and affiliated Departments of Microbiology, Medicine, and Pediatrics. In general, the program encompasses three years, two of which are spent on a field assignment at the Pakistan Medical Research Center in Lahore.

Upon entry into the program each Research Associate works out in advance with his advisor a definitive plan of study and research. Assignment to Divisions and appointment to advisors depends upon the candidate's background, interests, and needs. The global concept of medicine is emphasized and provision is made

for more advanced training in specialized aspects of international health. Following a basic orientation course, each Research Associate proceeds into one or another of specialized training areas. During this time he becomes identified with one of the Institute's Divisions and begins preceptor type training through the mechanism of a research project which also prepares the candidate for field work in Pakistan. Postdoctoral candidates with Ph.D., M.D., and D.V.M. degrees enter in one of several specialized programs soon after appointment to the program. These include infectious diseases-microbiology, nutrition, medical entomology, and epidemiology. In many instances overlapping interests will result in combined training and joint research projects. In some cases, additional clinical training of physician candidates will be considered essential to the success of the overall program.

Applications should be submitted through the Head of the Department.

MEDICINE

Professors: WOODWARD (HEAD OF DEPARTMENT), ELLIS, KRAUSE, T. MORRISON REVELL, H. ROBINSON, AND V. SMITH

Associate Professors: Bereston, Borges, Connor, Cotter, Eastland, Ellinger, Greisman, Gundry, Hetherington, Hornick, Karns, Lisansky, W. Morgan, S. Morrison, Parker, H. Raskin, R. Robinson, L. Scherlis, Schubart, Simpson, M. Snyder, Solomon, Spicer, Spurling, Tigertt, Wiswell, and Workman.

Assistant Professors: Beacham, Burnett, Carroll, Charache, J. Cohen, Ebeling, Entwisle, Evans, Fort, Freeman, Jacobson, Jiji, Layne, Leach, Lee, Legum, Lerner, D. Levy, Merrill, Muller, J. Raskin, Reiter, S. Scherlis, Serra, Shapiro, Singleton, S. Smith, Swisher, Wisseman, Zieve, and Staff.

MED. 102. CLINICAL CLERKSHIP IN MEDICINE.

Third year. This course consists of a clinical clerkship on the medical wards of the University Hospital or Baltimore City Hospitals for a period of nine weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations, and progress notes of assigned cases. They attend ward rounds and conferences in general medicine with the Resident Staff, Attending Physicians, and Chiefs of Service. For an additional three weeks students are assigned for work in neurology, pulmonary diseases, including tuberculosis and attend special ward rounds and teaching conferences in general medicine.

MED. 103. THE PRINCIPLES OF MEDICINE.

Third year. A short series of lectures in General Medicine, and Clinical Medicine are given to the entire junior class.

MED. 104. ADVANCED CLINICAL CLERKSHIP IN MEDICINE.

Fourth year. Clinical clerkship on the medical wards of University Hospital, Mercy Hospital, and Maryland General Hospital, for four weeks. An additional four-week period is spent in the Medical Out-Patient Department where instruction is given in General Medicine and the medical specialties. During this tour the senior students participate in the workup of chronically ill patients at the Montebello Chronic Disease Hospital, and attend consultative rounds in cardiology, infectious diseases, gastroenterology, arthritis, radioisotopes, neurology, hematology, endocrinology, and pulmonary diseases on the wards of the University Hospital.

Selected students who have completed the junior year may take Medicine 104 during the summer months. Application should be made to the Department Head prior to March 1 of the current year. Those students completing the course successfully will be assigned elective time during the academic year. This program is designed to



foster research for promising students and to provide for more intensive training in the fundamentals of clinical medicine.

SUMMER FELLOWSHIPS

Students who have completed their junior year are encouraged to seek additional training during the summer months preceding their senior studies. This training may be obtained in one of several ways. A limited number of students are appointed to Clinical Clerkships on the Medical Wards of the University Hospital. In these positions, they are responsible, under supervision, for the history, physical examination, laboratory studies, and progress notes of assigned cases.

In addition, certain of the medical subspecialty divisions provide specialized training for students as Summer Fellows during the summer months. The applicant is encouraged to apply directly to the Division Head. These fellowships enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems and therapeutic regimens peculiar to each of the medical subspecialties. Summer Fellowships are available in the following Divisions: Cardiology, (2 appointments), Dermatology (2 appointments), Endocrinology (2 appointments), Gastroenterology (2 appointments), Hematology (2 appointments), Renal Hypertension (2 appointments), Infectious Diseases (2 appointments), Arthritis (1 appointment), Radioisotopes (1 appointment), Pulmonary Diseases (2 appointments), and Clinical Physiology (2 appointments). Interested applicants should contact the respective Division Head prior to January 1 of the year in which the fellowship is desired. In many instances a fellowship award is made providing remuneration for two or three of the summer months.

POSTGRADUATE FELLOWSHIPS

These are available in the various specialties of Medicine. For details see specific division.

The Department of Medicine, for administrative purposes, is divided into ten Divisions. Each of these Divisions participates in the major courses taught by the Department. In addition, a number of specialized courses and postgraduate fellowships are offered by the Divisions.

Division of Arthritis

Doctors: SCHUBART (HEAD OF DIVISION), KOCHMAN, AND STAFF.

Med. 105. Division Rounds.

Third year. Elective.

MED. 105A. OUTPATIENT CLINIC.

Fourth year. Elective. Weekly arthritis outpatient clinics and attendance at weekly arthritis seminar and rounds.

Division of Cardiology

Doctors: L. Scherlis (Head of Division), antlitz, Dembo, Gonzalez, Lee, S. Scherlis, Singleton, Swisher, and Staff.

ID. 3. PHYSICAL DIAGNOSIS

Second year, second semester. The Division of Cardiology participates in presenting this course.

MED. 106. ELECTROCARDIOGRAPHY (16)

Third and fourth years. Elective. This is an introductory course consisting of illustrated group lectures and exercises.

MED. 106A. OUTPATIENT CLINIC AND DIVISIONS ROUNDS Third and Fourth year. Elective weekly clinic and attendance at rounds.

FELLOWSHIPS

These are available to selected postgraduate applicants. The Fellow participates in the activities of the Division, including cardiac catheterization, electrocardiography, phonocardiography, and vectorcardiography. Research Fellowships are also available. The fellowship begins July 1st of each year. A financial stipend is provided. Application is made through the Head of the Division and must be completed by October of the preceding year.

Division of Clinical Pathology

Doctors: Spurling (acting head of division), JiJi, Lancaster, Layne, Linthicum, Masters, Miller, and Sherrer.

MED. 101. CLINICAL PATHOLOGY. (128)

Second year. The course is designed to train the student in the performance and interpretation of the fundamental laboratory procedures used in clinical diagnosis. During the first semester the basic techniques of hematology as well as clinical aspects of blood diseases are taught. Blood group immunology in relation to transfusion is also covered. In the second semester the performance and interpretation of tests used in the diagnosis of renal, hepatic, gastric, pancreatic, and metabolic diseases are considered. A review, with clinical applications, of acid-base balance and electrolyte disturbances is included. Methods of examination of cerebrospinal fluid, transudates and exudates are taught. Elements of clinical parasitology complete the work in this semester.

Each student provides his own microscope and blood counting equipment. A completely equipped locker is provided for each student.

POSTGRADUATE FELLOWSHIPS

Two full-time clinical and research fellowships in hematology are available to applicants who have had a minimum of one year internship. A financial stipend is provided. Application should be made to the Head of the Division.

Division of Dermatology

Professor: H. M. ROBINSON, JR. (HEAD OF DIVISION).

Doctors: Bacharach, Bereston, Burnett, Ellis, Hollander, J. Raskin, R. C. V. Robinson, Shapiro, Yaffe, and Staff.

Med. 107. Introduction to Dermatology.

Third year. Students are given assigned reading on the more common skin eruptions. Nine two hour clinical sessions are held for each quarter of the junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis.

MED. 108. PRACTICAL EXERCISES IN DERMATOLOGY.

Fourth year. Groups of 15 students spend 20 hours in the out-patient department where they are given individual instruction in the diagnosis and treatment of cutaneous lesions. Emphasis is laid on the relationship of various eruptions to systemic conditions. Instruction is given in mycologic technique.

MED. 108A.

Students who take dermatology for the senior elective receive special training in clinical dermatology and the basic sciences as applied to dermatology.

GRADUATE TRAINING

The Division of Dermatology is approved by the American Board of Dermatology for a three year period of training which is required by the Board. This consists of instruction in the basic sciences (mycology, bacteriology, histopathology, chemistry, and physiology), and instruction in clinical dermatology. Emphasis is placed on the relationship of cutaneous lesions to systemic diseases. Residents and Fellows spend a part of the training period at the Rosewood School for Retarded Children, the Baltimore City Hospitals, and in the private offices of the members of the staff. Temporary membership in the dermatologic societies is provided under the sponsorship of the Division Head.

Division of Endocrinology and Metabolism

Doctors: CONNOR (HEAD OF DIVISION), WISWELL, WORKMAN, AND STAFF.

ENDOCRINE CLINIC—CONFERENCE AND ROUNDS.

Fourth year. Elective. Patients with a variety of endocrine-metabolic diseases are seen in the Out-Patient Department every Monday afternoon from 1:30 to 4:00 p.m. This is followed by a Conference in which clinical case material is presented for discussion with staff members and students actively participating. Every Friday afternoon weekly wards rounds are held. Elective periods for concentrated study for 1- to 3-month intervals are available for selected students. Summer fellowships for students are also offered.

NUCLEAR MEDICINE

(DR. WORKMAN, HEAD)

PHARMACOLOGY 201.

Second year. In cooperation with the Department of Pharmacology, a portion of one laboratory session is utilized to demonstrate the accuracy of a radioisotope method of estimating thyroid function.

MED. 110.

Fourth year elective (Conference Nuclear Medicine).

Postgraduate Fellowships are available to applicants who have completed internship and at least one year of residency training. Opportunities for active participation in clinical and research activities are available. Independent research investigations are encouraged. A financial stipend is provided. Three full-time fellowship positions are available.

CLINICAL PATHOLOGY

Second year. In cooperation with the Division of Clinical Pathology two lecturedemonstrations are presented emphasizing diagnostic radioisotope procedures useful in hematology.

Division of Gastroenterology

Doctors: H. RASKIN (HEAD OF DIVISION), M. ATTAR, V. SMITH, WAGGER, AND STAFF.

ID. 2. Introduction of Clinical Medicine.

Second year. The Division of Gastroenterology participates in the presentation of this course.

Division of Hypertension and Renal Disease

Director: BORGES; Doctors: LEWANDOWSKI, YOUNG, AND STAFF.

Med. 110. Conferences on Hypertension.

Fourth year. Elective. Conferences on pathologic-physiology of hypertensive and renal disorders, sites of action of antihypertensive drugs, methods for screening patients with hypertension and therapeutic methods in various disease processes.

MED. 111. OUTPATIENT CLINIC AND DIVISION ROUNDS.

Fourth year. Elective. Weekly clinics and attendance at rounds.

POSTGRADUATE CLINICAL FELLOWSHIPS

The Division sponsors two Fellows who receive training in pathologic-physiology of hypertensive states, techniques of screening patients and management of hypertensive renal problems. In addition, they participate actively in investigative problems. A financial stipend is provided.

Division of Infectious Diseases

Doctors: HORNICK (HEAD OF DIVISION), L. FISET, M. SNYDER, TOGO, AND STAFF.

POSTGRADUATE FELLOWSHIPS

The Division sponsors four Fellows who receive instruction in laboratory techniques and clinical investigation. Fellows participate in all functions of the Division, including collaboration in investigative problems. A financial stipend is provided. Application is made through the Head of the Division.

Division of Physical Diagnosis

Doctor: COTTER (HEAD OF DIVISION) AND STAFF.

ID. 2. Introduction of Clinical Medicine.

Second year. The Division participates in presenting this course.

ID. 3. PHYSICAL DIAGNOSIS.

Second year, second semester. This course implements ID. 2. and provides the student with bedside instruction in physical diagnosis. Small tutorial groups are formed, each under the direction of an instructor. In the first five weeks, experience in physical examination of normal individuals is given one afternoon weekly. During the subsequent 12 weeks, students become acquainted with abnormal signs through examination of hospitalized patients. For the first five of these 12 weeks the Division of Cardiology gives instruction in the physical examination of the heart. Thereafter, sections are assigned in rotation to the Division of Neurology and the Department of Pediatrics for instruction in these specialties.

Division of Pulmonary Diseases

Doctors: SPICER (HEAD OF DIVISION), BLIDE, KERR, MARINE, RAMIREZ-RIVERA, RUSCHE, SIMPSON, AND STAFF.

MED. 113. CLINICAL CLERKSHIP IN PULMONARY DISEASES.

Third year. This 3 week period of training is given on the chest ward service and in the chest clinic. Students are assigned hospital patients whom they work up, follow, and present at rounds and at conference. Clinic and bedside teaching emphasizes development of the technique of the medical examination which is correlated with x-ray study. The seminars and conferences emphasize an understanding of the basic processes involved in respiratory health and disease.

Fourth year. Elective. The chest clinic provides an opportunity for clinical and physiologic study of patients with chronic bronchopulmonary disease, especially chronic bronchitis and emphysema. Emphasis during this elective period is placed on develop-

ment of understanding of principles and techniques of testing of cardio-pulmonary function testing.

STUDENT FELLOWSHIP

The service offers three such positions for the support and supervision of students throughout their medical school career. These fellowships will provide special graded instruction and experience in research methodology, epidemiology, physical diagnosis, clinical chest disease, and pulmonary physiology. The individual student, during his medical school career, will gradually be introduced to clinical medical research so that he may plan and complete a research project during this period.

MICROBIOLOGY

Professor: WISSEMAN (HEAD OF DEPARTMENT).

Research Professor: TRAUB.

Associate Professors: EYLAR, P. FISET, AND M. SNYDER.

Assistant Professors: LEVIN, MC CRUMB, MYERS, ROSENZWEIG, AND STAFF.

MICROBIOL. 101. MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (180)

Second year, first semester. This course is intended to introduce the student to basic concepts of microbial agents and immunologic mechanisms necessary to understand infectious diseases, public health, and diseases of immunologic origin. Properties of microorganisms are considered in relation to pathogenesis of infections, mechanisms of tissue damage and host defense mechanisms. Bacterial, fungal, viral, and rickettsial agents are studied in both lecture and laboratory.

FOR GRADUATES

The Department of Microbiology offers the degree of Doctor of Philosophy and encourages especially those who wish to enroll in the combined M.D.-Ph.D. program. While the degree of Master of Science may be offered in special instances, priority for research facilities will be given aspirants to the Ph.D. degree. These courses are available only by prior arrangement with the Staff.

MICROBIOL. 201. MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (8)

First semester. Four lecture hours and eight hours in laboratory and group conferences per week. Laboratory fee, \$10.00. This course, intended for the serious advanced student of medical microbiology, is built upon the framework of Microbiol. 101 supplemented with advanced readings and laboratory work.

MICROBIOL. 203. MICROBIAL PHYSIOLOGY. (3)

Second semester, alternate years. Three lectures per week supplemented with demonstrations. By consent of instructor.

MICROBIOL. 206, 207. Seminar. (1, 1)

First and second semesters. One session per week. Graduate students, staff, and guests participate in comprehensive and critical reviews of subjects of special interest or pertinent to graduate training program.

MICROBIOL. 209. SPECIAL TOPICS.

(Permission and credit arranged individually.) This course provides the opportunity for the graduate student to pursue under supervision subjects of special interest not offered in other formal courses.

MICROBIOL. 210. ADVANCED VIROLOGY AND RICKETTSIOLOGY LECTURE. (3)
This course considers the general properties of viruses and rickettsiae, methods for

studying them, and finally concentrates on agents of medical importance. Special emphasis is placed on the host-parasite relationship, characterization of the various viral and rickettsial agents and on biological and ecological factors. Registration is by permission of instructor only. The course will be given on the average on alternate years in the Spring semester. There are two weekly sessions of 90 minutes each. Prerequisite: Microbiol. 201 or equivalent.

MICROBIOL. 211. VIROLOGY AND RICKETTSIOLOGY LABORATORY. (2)

This course is the laboratory counterpart of Microbiol. 210. It is designed to familiarize the student with the major techniques for the study of virus and rickettsial agents, and to give him first hand experience with a variety of the more common agents. Registration is by permission of instructor only. Because of the limited facilities and the nature of the work, it may be necessary to restrict registration in this course according to the following priority: students majoring in medical microbiology, then students minoring in microbiology and, finally, others. The laboratory consists of two formal sessions per week; however, the nature of the work frequently requires additional participation throughout the week.

MICROBIOL. 399. RESEARCH (FOR THESIS PROBLEM).

Maximum credits, 12 hours per semester.

NEUROLOGY

Professors: NELSON (HEAD OF DEPARTMENT), MERLIS, AND VAN BUSKIRK.

Associate Professors: MAYER, RAMSEY, AND TEITELBAUM.

Assistant Professors: HECK, KRAMER, AND MOSSER. Instructors: HULFISH, OLEYNICK, AND SUTTON.

Neuro. 101. Introduction to Clinical Neurology (16)

(Second year.) Lecture-demonstrations in neurology are presented, emphasizing correlation of anatomy, physiology, and pathology of the nervous system with clinical neurology.

ID. 3. NEUROLOGIC ASPECTS OF PHYSICAL DIAGNOSIS. (8)

(Second year.) The Department participates in the physical diagnosis course with instruction in the performance of the normal neurologic examination as well as examination of selected patients with neurologic disorders.

NEURO. 102. CLINICAL CLERKSHIP IN NEUROLOGY.

Third year. Available for a portion of the third year class. This course consists of a clerkship on the neurology ward of the University Hospital for approximately four weeks. Under house staff and attending staff supervision, the students are responsible for the total care of the patient with neurologic disease. They may assist in the performance of some procedures and attend rounds and conferences in neurology.

NEURO. 103. PRACTICAL CLINICAL NEUROLOGY. (10)

Third year. A series of lecture-demonstrations given to the entire third year class with emphasis on diagnosis and treatment of the common neurologic diseases.

NEURO. 104.

Fourth year. Elective time of 4 weeks may be spent in the Department of Neurology, either on the ward or in one of the research laboratories.

SUMMER FELLOWSHIPS

Students who have completed their first, second, or third years and have an interest in the neurologic sciences may apply for additional training in clinical neurology or in one of the research laboratories of the Department of Neurology.

Qualified students may receive remuneration for their summer work.

POSTGRADUATE PROGRAM

There is a fully approved three year program for specialty training in Neurology at the University Hospital. This provides for clinical training as well as a rotation through the associated basic science disciplines. Fellowships with a stipend are provided and begin July 1 each year. For further information, contact the Head of the Department.

OBSTETRICS AND GYNECOLOGY

Professors: HASKINS (HEAD OF DEPARTMENT) AND KALTREIDER.

Associate Professor: MIDDLETON.

Associate Clinical Professors: CORNBROOKS AND MCNALLY.

Assistant Professors: Durkan, Garcia, Misenhimer, Moszkowski, Munford, Rimer, and Villasanta.

Assistant Clinical Professors: BRADY, COHEN, DAVIS, DIGGS, DIXON, DUMLER, KARDASH, MARTIN, MORRIS, MORRISON, SEEGER, AND STAFF.

Instructors: ANCES, BACA, AND WESTNEY.

OB-GYN. 101. CLINICAL CLERKSHIP IN OBSTETRICS AND GYNECOLOGY.

Third year. Students are assigned to Obstetrics and Gynecology for a period of six weeks. As clinical clerks, they participate in the original diagnostic studies, pelvic surgical procedures, and postoperative care of hospitalized patients.

Daily rounds, seminars, and departmental conferences with the attending staff and house officers aid the student in the interpretation and correlation with his observations,

diagnoses, and the several therapeutic regimens.

Specific instruction is provided in pathology, basic science, and endocrinology as related to obstetrics and gynecology. Obstetrical manikin exercises, prenatal examination, and gynecologic outpatient care are accomplished in the Outpatient Department.

OB-GYN. 102. ADVANCED CLINICAL CLERKSHIP IN OBSTETRICS AND GYNECOLOGY. Fourth year. Students are assigned to Obstetrics and Gynecology at Baltimore City Hospital for a period of four weeks. The student rotates through the accident room, delivery floor and maternity division. He participates in daily rounds, deliveries, postpartum care, and seminars. Specific instruction in cancer, obstetrical complications, and pelvimetry is provided.

OPHTHALMOLOGY

Professors: RICHARDS (HEAD OF DEPARTMENT) AND HART.

Associate Professor: FOX AND MICHAELIS.

Assistant Professor: Bernstein, Boaz, Cavonius, Meisels, and Schocket.

Instructor: Braver, Creamer, Feinberg, Goldberg, Kogan, Ortel, and Ross.

OPHTHAL. 101. INTRODUCTION TO OPHTHALMOLOGY.

Third year. A lecture course for the entire class covers the fundamentals of Ophthalmology. Weekly section work, with emphasis on the use of the ophthalmoscope, includes discussion periods, demonstrations, and clinics.

OPHTHAL, 102. CLINICAL OPHTHALMOLOGY.

Fourth year. Ward rounds, demonstrations, discussion periods, and clinics in diseases of the eye.

PATHOLOGY

Professors: FIRMINGER (HEAD OF DEPARTMENT), FISHER, HOPPS, AND WAGNER.

Associate Professors: FREIMUTH, LINDENBERG, MERKEL, PETTY, RASMUSSEN, REIMANN, SCHULTZ, TOLL, WEINBERG, WOOD, AND WRIGHT.

Assistant Professors: Adams, Burkart, Cranley, Guerin, Hicken, Katase, Kiefer, Kime, Levin, Parr, Passen, Quinton, Reuber, Rosenholtz, Spitz, and Springate.

Instructors: HAMELI, HENDRICKSON, SCHWEDA, AND WISOTZKEY.

PATH. 101. GENERAL, SYSTEMIC, AND EXPERIMENTAL PATHOLOGY. (364)

Second year. This course starts with the study of the basic principles of pathology and progresses with the study of diseases of the various organ systems. Teaching is chiefly by the case method using fresh and fixed autopsy cases but also utilizes gross museum specimens and a set of prepared, selected histologic slides. Students assist in the performance of autopsies in small groups, prepare final protocols, and present the findings and interpretation of the cases to others in the class.

Included in the course is an introduction to experimental pathology by two experiments illustrative of basic pathologic principles.

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PATH. 102. EXPERIMENTAL PATHOLOGY. (HOURS VARY WITH PROJECT CHOSEN.)

Second year. A limited number of students have the opportunity to participate in experimental work. Some carry out a series of 6 experiments selected to illustrate the dynamics of disease processes. Others choose some area of the Department such as tissue culture, electron microscopy, or cytopathology for seminars and the pursuit of an original project under the supervision of a member of the Staff.

PATH. 103. CORRELATIVE MEDICAL PATHOLOGY. (9)

Third year. This course is given in collaboration with the Department of Medicine and consists of a series of conferences with small groups of students, an internist and a pathologist. An illustrative clinical case is used as the base for discussion of a few selected diseases with particular emphasis on correlating the anatomical and functional changes with the clinical disease.

PATH. 104. SURGICAL PATHOLOGY. (16)

Fourth year. This course consists of a series of rather informal lectures and discussions of the pathology of various surgical conditions with small groups of students using colored lantern slides, gross museum specimens, a set of prepared microscopic slides and current gross surgical specimens.

PATH. 105. CLINICAL PATHOLOGIC CONFERENCES. (36)

Third and fourth years. These exercises are held in collaboration with various clinical departments. Histories from carefully chosen cases are circulated prior to the conference. Diagnoses are submitted and the differential diagnoses are discussed by selected members of the clinical faculty. The pathologic findings are then presented and correlated with the clinical disease.

PATH. 106. ELECTIVE PATHOLOGY. (115)

Fourth year. Students may spend a month continuously in pathology as an assistant to a resident participating in autopsies, examination of surgical specimens, and contributing to discussions in the various conferences of the Department.

PATH. 107. (56)

Second year (second semester). A small group of students attend a series of round table discussions on the diagnosis of medical diseases by biopsy. The course includes microscopic study of the histopathologic findings, their interpretation and significance with special emphasis on diseases of the liver and kidney.

FELLOWSHIPS (AFTER SOPHOMORE YEAR)

Students may be selected for summer fellowships in pathology or in certain instances drop out of the regular curriculum for a year and devote their entire time to pathology. They may spend a minor proportion of their time as externs in pathology and attending the regular intradepartmental conferences but the major part of their time is devoted toward research, with students participating in original projects under the supervision of a Staff member.

Division of Neuropathology

Doctors: WAGNER (HEAD OF DIVISION), PARR, AND STAFF.

Neuropathology is now taught as a part of a newly developed curriculum known as the Neurologic Sciences Curriculum. Since 1964, all departments concerned with the teaching of neurologically related subjects have cooperated in the formulation of a single curriculum. All aspects of the neurologic sciences are covered in a progressively expanding manner during the 4 years the students spend in school.

Neuropathology is included in the curriculum as follows:

NEUROLOGIC SCIENCES I: Correlative illustrations are presented as their principal anatomic areas are studied. Illustrative material is presented in the section on Clinical Anatomical Correlation.

NEUROLOGIC SCIENCES II: A complete course of basic lectures in Neuropathology, demonstrations of typical neuropathologic lesions and clinicopathologic case studies, becomes a continuing integrated aspect of the Neurologic Science Curriculum.

NEUROLOGIC SCIENCES III AND IV: Continued specific correlation and periodic reviews of Neuropathology is provided during the clinical years. Formal Clinicopathologic Conferences are included.

Division of Forensic Pathology

Doctors: FISHER (HEAD OF DIVISION), ADAMS, FREIMUTH, LINDENBERG, PETTY, SCHWEDA, SPITZ, AND SPRINGATE.

FOR GRADUATES

In addition to teaching basic forensic pathology in the second year course this division offers a number of other courses including a graduate program in toxicology leading to the degrees of Master of Science and Doctor of Philosophy in Toxicology.

LEG. MED. 201. LEGAL MEDICINE. (1)

Third year or graduate students. This course consists of one hour of lecture for each of 12 weeks and 4 hours of assigned reading.

Leg. Med. 202. Toxicology. (10)

Two hours lecture, 8 laboratory hours per week for one year.

LEG. MED. 203. GROSS PATHOLOGIC ANATOMY AS RELATED TO TOXICOLOGY. (2) Two hours per week for one year.

Leg. Med. 204. Research in Toxicology Leading to Preparation of a Thesis for the M.S. (6)
Minimum credits, six.

FOR MEDICAL STUDENTS

Normal human physiology is presented in the first year in two different courses: Basic Medical Sciences 102, and Neurosciences 101.

Leg. Med. 205. Research in Toxicology Leading to Preparation of a Thesis for the Ph.D. (30)

PEDIATRICS

Professors: BESSMAN, BRADLEY (EMERITUS), FINKELSTEIN AND HEPNER.

Associate Professors: BALDWIN, CLEMMENS, GLASER, GLICK, GORTEN, GROSSMAN, S. SCHERLIS, F. SMITH, STINE, WALKER, WEAVER, AND WELLS.

Assistant Professors: Fineman, Heldrich, Jensen, Kappelman, Lentz, London, Mosser, Schiffman, Seabold, Sigman, and Wapnir.

PED. 101. INPATIENT CLERKSHIP.

Third year. Students are assigned as clinical clerks for a period of six weeks to the pediatric wards of the University and Mercy Hospitals. They are responsible for patient care and work with house staff and instructors in planning the workup and treatment of assigned patients. Ward rounds are attended daily. The students are assigned tutors who meet with their students two times weekly.

Daily conferences are held covering x-ray diagnosis, cardiology, journal review, chart conferences, neonatal mortality, case discussions and metabolic diseases. Discussions cover concepts of the premature and neonate, therapeutic management of pediatric patients, nutritional aspects and disturbances of the genitourinary tract.

PED. 102. OUTPATIENT DEPARTMENT CLERKSHIP.

Fourth year. Students assigned to pediatrics as clinical clerks for a period of four weeks work in the Pediatric Outpatient Department of the University Hospital. All patients seen by the students are reviewed by an instructor of the pediatric staff. Daily conferences covering a wide range of pertinent pediatric topics are held from 9:30 to 10:30 a.m. Students are assigned to the Development, Seizure, Pediatric Hematology, Cardiology and Child Guidance Clinics. Senior students are responsible for physical examinations of all neonates. Field trips to various community agencies are offered to selected students. Ward rounds for senior students are held twice weekly in the University Hospital. Senior students attend the departmental noon conferences.

PED. 103. LABORATORY RESEARCH PROBLEMS IN PEDIATRICS.

Second year. Elective. (Two students per year.) Students will be required to set up simple laboratory procedures to be used by them in the study of a clinical problem. Problems will be selected of such limited scope that a fairly complete project can be done by two students cooperating in their elective time over a period of one year. Emphasis will be made on the accuracy and reliability of standard techniques, as applied to the detailed analysis of a clinical problem. Interested students should apply to Dr. Bessman.

PHYSIOLOGY

Professors: Blake (Head of Department), Adelman, Barraclough, and Shock. Associate Professors: Coleman, Fajer, Glaser, Merlis, Pinter, and Solomon.

Assistant Professors: KARPELES, AND GREISMAN.

Instructor: JURF.



Basic Med. Sci. 102 consists of lectures, laboratory work, and conferences running throughout the first year. The lectures cover principles of biochemistry, biophysics, physiology, and pharmacology. Laboratory work and the conferences thereon include an introductory series of exercises and demonstrations to acquaint students with contemporary techniques in these disciplines after which time students select an advisor from one of the above departments and continue their laboratory work on a tutorial basis.

Neurosci. 101 correlates the study of neuroanatomy with neurophysiology and introduces related clinical material in lecture and laboratory work.

Lectures in abnormal human physiology are presented in the second year in the course entitled *Introduction to Clinical Medicine*.

Advanced seminars (see below) and/or research in special areas of physiology are open to interested students who have completed the first year.

Combined M.D.-M.S. and M.D.-Ph.D. programs, requiring additional course work and original research, are offered for highly qualified students.

FOR GRADUATE STUDENTS

The several graduate programs in Physiology are designed for students oriented toward careers in mammalian physiology, biomedical engineering, gerontology, or academic medicine. Background in mathematics, physics, and chemistry is considered essential and ordinarily only those wishing to complete the requirements for a Ph.D., M.D.-Ph.D., or M.D.-M.S. degree will be considered. The program in gerontology is given in collaboration with the Gerontology Division of the National Institute of Child Health and Human Development at the Baltimore City Hospitals. The M.D.-Ph.D. and M.D.-M.S. programs are given in collaboration with the School of Medicine. Interested students are invited to write for additional details.

Graduate students majoring in physiology will ordinarily be expected to take *Basic Med. Sci. 202* and *Neurosci. 201* and those advanced seminars that are pertinent to their areas of interest. Additional course work in anatomy, biophysics, biochemistry, pharmacology, mathematics, and/or physics complete the minor requirement. Foreign language examinations are required for Ph.D. candidacy and original research and a dissertation for attainment of the degree.

Advanced courses offered by the Physiology Department include:

Basic Medical Sciences 202. (6, 8) Similar to Basic Med. Sci. 102 but with additional reading and conference work.

Neurosciences 201. (3, 3) Similar to Neurosci. 101 but with additional reading and conference work.

Physiol. 202. Cardiovascular Physiology. (2)

Physiol. 203. Pulmonary Physiology. (2) *Physiol.* 204. Physiological Techniques.

Physiol. 205. Physiology of Kidney and Body Fluids. (2)

Physiol. 206. Seminar (1)

Physiol. 207. Physiology of the Central Nervous System (2)Physiol. 208. Physiology of the Autonomic Nervous System. (2)

Physiol. 209. General Physiology (3)

Physiol. 210. Physiological Control Systems. (3)

Physiol. 211. Sensory Physiology (2)

Physiol. 212. Physiology of Reproduction. (2)

Physiol. 213. Seminar in Neuroendocrinology. (2) Physiol. 214. Comparative Adrenal Physiology. (2)

Physiol. 399. Research.

PREVENTIVE MEDICINE AND REHABILITATION

Professors: ENTWISLE (HEAD OF DEPARTMENT) AND TAYBACK.

Associate Professors: Barrett, Dowling, Henderson, Mahoney, and P. Richardson. Assistant Professors: Gessner, Hebel, Reed, A. Richardson, and Schonfield.

PREV. MED. 101. BIOSTATISTICS. (42)

First year, second semester. Each weekly two and a half hour session is divided into a lecture period followed by small group sessions used for review, discussion or practical exercises. This series of lectures and small group sessions illustrates the basic methods of statistical analysis and demonstrates their use in several areas of clinical practice and investigation. The course will cover the following statistical subjects: Concepts of measurement in medicine, analytical methods for quantitative and qualitative data, life table method and application to medicine, age adjustment and bio-assay.

PREV. MED. 102. EPIDEMIOLOGY AND COMMUNITY MEDICINE. (34)

Second year, second semester. The basic methods and application of epidemiology are reviewed and illustrated by consideration of certain groups of chronic diseases. Patterns of illness and medical care are discussed, and the role of a variety of health agencies is reviewed.

PREV. MED. 103. APPLIED PREVENTIVE MEDICINE AND REHABILITATION I. (48)

During third year the student is assigned a patient with a chronic disease and follows this patient and the patient's family, the student serving as a health advisor. During this year of practical experience, the student studies in depth the medical care and management of his patient, including the use of community resources, and the community distribution and the epidemiology of the specific chronic diseases which his patient manifests. This family-based program gives the student an opportunity to understand comprehensive medical care.

In addition, the student participates in small group sessions in the areas of rehabilitation, including comprehensive evaluation services, medical care and chronic disease. Part of the student's assignment is at Montebello State Hospital.

Prev. Med. 104. Applied Preventive Medicine and Rehabilitation II. (18) Fourth year. Each student participates in four seminars devoted to broad consideration of the application of preventive medicine in general and specialty practice. In addition, the student participates in four clinical conferences on rehabilitation problems of patients in University Hospital.

Division of Physical Medicine and Rehabilitation

Doctors: P. RICHARDSON (HEAD OF DIVISION), DOWLING, FLEISCHER, GESSNER, LENTZ, MAHONEY, A. RICHARDSON, AND STAFF.

The Division participates in Preventive Medicine 103 where the students receive lecture demonstrations and participate in small group discussions in the application of physical medicine procedures and rehabilitation techniques in the general practice of medicine. Part of this assignment is at Montebello State Hospital. The Division also participates in Preventive Medicine 104 with four clinical conferences on rehabilitation problems of patients in the University Hospital.

PSYCHIATRY

Professors: BRODY (HEAD OF DEPARTMENT), BARTEMEIER, FARINHOLT, GRENELL, KUBIE, MONROE, B. POPE, RAFFERTY, AND WILL.

Associate Professors: Anderson, Derbyshire, Hartz, Huffer, Jacobson, Klee, Lisansky, Raher, Roseman, Sata, Tuerk, Weintraub, and Young.

Research Associate Professors: Aronson, findley, friedenberg, goldiamond, and siegman.

Assistant Professors: AKIN, ALBRIGHT, ASCHER, BRADFORD, G. BROWN, CLEMMENS, DAVIS, EICHLER, GLASER, GORWITZ, A. GROSS, H. GROSS, M. GROSS, HAZAMA, HOLDEN, JANTZ, KOHLMEYER, M. D. KRAMER, LEVIN, MACKIE, MAGRUDER, MAXWELL, MC CUE, MOTT, NOSHPITZ, O'CONNOR, OZER, PRESS, RAE-GRANT, RAPPEPORT, REED, ROBINSON, SAKLES, SAVAGE, SCHLEIFER, SCHNAPER, SCHONFIELD, SHOCHET, ULGUR, VIDAVER.

Research Assistant Professors: BALIS, BRAUDE, SHAFFER, AND WARTHEN.

Instructors: Badell, Carson, Cohn, Cowen, Fiedler, Finn, Fitzpatrick, Forster, Goldmann, Gordon, G. Gross, Gutches, W. Harris, Hartl, Herbert, Hitchman, Holder, Hulfish, Johnston, Lewis, Mc Elroy, Oleynick, Oppenheimer, Phillips, A. Pope, Sack, Schulz, Styrt, Thistel, Trattner, Von Muehlen, Weisman, and K. Wise.

Lecturers: M. KRAMER AND KURLAND.

PSY. 101A. INTERVIEW APPRAISAL

(Thursday afternoons, 1st semester.) Dr. Brody and staff.

This course is devoted to providing future physicians with a fundamental knowledge of human relationships. Principals and concepts of role theory, interpersonal relations, and psychodynamics provide a frame of reference within which medical students examine transactional behavior. Each week a physician-patient interview is the medium providing students an opportunity to observe and critically analyze a transaction. With the leadership of a staff psychiatrist, students form small groups after each interview. These groups focus upon observing the transactional process. Lectures prior to each patient interview and assigned readings provide the substantive material with which students analyze human interactions.

PSY. 101B. HEALTH, ILLNESS, AND HUMAN BEHAVIOR

(Thursday afternoons, 2nd semester.) Dr. Derbyshire and staff.

Behaviors associated with illness and health are incorporated into all social systems. Anthropologic, psychologic, and sociologic concepts for examining and understanding the social behavior of health and illness are stressed. Of central concern is the life cycle of families. An examination of the family life process through developmental tasks provides an opportunity for viewing health and illness in relation to its social system, role theory, culture, motivation, socialization, values, attitudes, perception, reference groups, and institutions.

Psy. 101c. Life Situations, Emotions, and Illness.

(Thursday afternoons, 2nd semester.) Dr. Lisansky and staff.

This course develops a frame of reference for viewing illness of all kinds, emotional and physical, from the study of adults with a wide variety of medical problems. Much of the material is developed during the course of classroom interviews with patients from the medical and surgical wards. Important issues include: reactions to stress, and situational and social factors in disease. Emphasis is placed upon observing, understanding, and evaluating the personal and social factors in the disease process, in treatment, and in prevention.

PSY. 102. INTRODUCTION TO CLINICAL PSYCHIATRY, PSYCHOPATHOLOGY AND PSYCHOTHERAPY.

(60). Dr. Monroe and staff.

This course, Tuesday and Thursday morning during the first semester and Thursday morning during the second semester, presents to the sophomore medical students, by lectures, films, interviews, and discussions, a foundation in psychopathology. Each of the reaction types are discussed with signs and symptoms. There is also a discussion of basic defense mechanisms. Psychopathology is also correlated with effects of culture, group process, and their relationship to the therapeutic task which will be part of the doctor-patient relationship.

PSY. 103. PSYCHIATRIC CLINICAL CLERKSHIP

(Third year-3 weeks). Dr. Weintraub, Dr. Huffer, and staff.

Students are assigned to two clinical areas. Under the direction of the Liaison Division staff psychiatrists, the students work with medical-surgical patients, learning the principals and techniques of interviewing, doctor-patient relationship and supportive psychotherapy. On the wards of the Inpatient Division, the students are indoctrinated into the milieu approach in the treatment of psychiatric patients. In addition, they are responsible for the detailed history, examination, and treatment of newly admitted psychiatric patients, working closely with the psychiatric assistant residents. The importance of family-social influences is stressed.

PSY. 104. ADVANCED PSYCHIATRIC CLINICAL CLERKSHIP

(Fourth year-4 weeks). Dr. Rafferty, Dr. Klee and staff.

A clinical clerkship is offered in the outpatient clinics of the Psychiatric Institute for one month. The students elect either the adult or children's programs. Emphasis is on the clinical management, diagnosis, interviewing technique, and psychotherapy. Related theoretical seminars and intensive personal supervision provide support to the clinical experience.

RADIOLOGY

Professors: DENNIS (HEAD OF DEPARTMENT), BLOEDORN, AND DAVIDSON.

Associate Professors: HEARN, KNOX, LYON, ROBINSON, AND WOLFEL.

Assistant Professors: REISS, SEYDEL, AND WIZENBERG.

Instructors: ALLEN, HYMAN, NAVARRO, THOMAS, THREATT, AND WALLOP.

RAD. 101. RADIOLOGIC ANATOMY. (12)

First year, first semester. A correlated course is given in conjunction with the Department of Anatomy. This course consists of nine lecture-demonstrations devoted to the skull, chest, gastrointestinal tract, genitourinary tract, the spine, and joints. Not only is the normal anatomy shown, but the radiologic aspects of a few pathologic processes are also shown for emphasis and correlation.

RAD. 103. RADIATION THERAPY ORIENTATION. (5)

Third year. This series of five lectures is given to the whole third year class to present the basis of radiation therapy. In the first lecture, the basic principles of radiotherapy and the present and future role of radiotherapy of malignant tumors is presented. The second lecture is devoted to the principles of radiobiology, radiophysics and radiation protection. The last three lectures deal with groups of tumors that are curable with ionizing radiation with a discussion of the principle indications, management and results of radiotherapy in each of these groups.

RAD. 104. RADIOLOGIC ORIENTATION I. (33)

Third year. A series of lecture-demonstrations are given to small groups of students at the Baltimore City Hospital, Mercy Hospital, and the University Hospital. An attempt is made to cover the roentgen studies of all systems of the body with demonstrations of the more common lesions encountered in each system. At Baltimore City

Hospital, twelve lecture-demonstrations are given on the chest, the genitourinary tract and metabolic bone diseases, while at Mercy Hospital, three hours are devoted to the arthritides and bone tumors. At the University Hospital, eighteen additional lecture-demonstrations are devoted to the lungs, gastrointestinal tract, heart, and skull.

RAD. 105. RADIOLOGIC ORIENTATION II. (60)

Fourth year. Students in groups of five are assigned full time for a period of two weeks to the Diagnostic Division of the Department of Radiology. On alternate mornings, a student observes chest and gastrointestinal fluoroscopy, interviews outpatients and correlates the clinical and roentgen findings on these patients and attends film reading sessions with the staff radiologists. The students are taught the basic principles of fluoroscopy and are assigned a few patients with pulmonary and cardiac lesions to fluoroscope. Recommended reading assignments are made and the students spend the afternoons studying a select group of teaching cases which are correlated with these reading assignments. Daily diagnostic conferences are held with the students, and at this time the interesting cases of the day are presented. They also attend joint conferences held with the department of Pediatrics, and the Division of General and Thoracic Surgery.

SURGERY

Professors: BUXTON (HEAD OF DEPARTMENT), AUSTIN, BLANCHARD, COWLEY, HULL, YEAGER, AND YOUNG.

Associate Professors: Adams, Attar, Flotte, Linberg, Mansberger, Mosberg, Scarborough, and Thompson.

Assistant Professors: BOWIE, COX, GOVATOS, HUBBARD, MAYS, MECH, SCHWARTZ, SIWINSKI, AND STAFF.

Surg. 101. Principles of Surgery. (25)

Third year. These lectures are discussions of fundamental surgical problems and a systematic description of general surgical disease. The discussions are designed as introductions to and preparation for detailed reading in standard textbooks, current periodicals, and monographs in surgery.

SURG. 101A. SURGICAL SPECIALTY LECTURES. (42)

Third year. This is a continuation of Surg. 101, wherein the surgical discussions center around the problems of Otorhinolaryngology, Thoracic Surgery, Neurosurgery, Orthopedic Surgery, and Urologic Surgery.

SURG. 103. OUTPATIENT CLERKSHIP IN SURGERY. (286)

Third year. One-fourth of the third year class is assigned to the Department of Surgery each quarter of the school year. Students are assigned to the Outpatient Department for the examination and supervised care of patients in the General Surgical, Orthopedic, Urologic, and ENT Clinics. One-third of this quarter is spent at Mercy Hospital. Students are assigned in rotation as clinical clerks at night in the Emergency Room.

SUMMER FELLOWSHIPS

Fellowships are available each summer for a period of ten weeks in the Surgical Research Laboratory. Both sophomore and junior students are eligible. Investigative problems related to these services will be undertaken under the guidance of members of the Surgical Staff.

Division of General Surgery

Doctors: Adams, Bowie, Buxton, Cox, Flotte, Govatos, Hubbard, Hull, Mansberger, Ollodart, Scarborough, Siwinski, Stewart, Yeager, and Staff.

SURG. 103A.

This is the student's introduction to an office-type surgical practice in that he undertakes the supervised care of patients in the Surgical Dispensary. General discussions related to problems presented by these patients are given by the Surgical Staff. The introduction to specific surgical techniques in examination and treatment of patients is undertaken. This course is given at both University and Mercy Hospitals. Audiovisual instruction is given. Students are assigned to the Emergency Room during this period.

SURG. 104A.

Senior students are assigned to patients on the surgical wards in the University Hospital. They are responsible for the physical examination, history, and certain laboratory tests as required by the patient's disease. They participate in the active care and treatment of patients.

Division of Neurosurgery

Doctors: ARNOLD, THOMPSON, AND STAFF.

Surg. 104b.

Senior students assigned to this division act in the capacity of student interns. The students are closely integrated with the House Staff and are assigned sufficient patients so that comprehensive experience in the diagnosis and treatment of neurosurgical problems is obtained. Instruction is through ward rounds and informal discussions. Wednesday mornings are devoted to clinical, x-ray, and neuropathologic conferences.

Division of Orthopedic Surgery

Doctors: AUSTIN (HEAD OF DIVISION), T. MORGAN, TANSEY, WILDER, AND STAFF.

Surg. 103c.

Junior students are assigned to this division in the Outpatient Department at University and Mercy Hospitals. Patients are seen for diagnosis and postoperative care. Instruction is given in the application of plaster casts and in the ambulatory management of orthopedic problems. Occasion is given to instruction in the Physical Therapy of patients with orthopedic disease.

Surg. 104c.

Senior students are assigned patients both on the surgical wards and in the Emergency Room. They participate in the care of these patients, and are given instruction in the application of traction and plaster casts. Frequent ward rounds are held at the Kernan Hospital for Crippled Children. An Amputee Training Program is active.

Division of Otolaryngology

Doctors: ALDERMAN, BLANCHARD, CROSS. ENGNOTH, NATALE, O'ROURK, AND STAFF.

Mercy Hospital: DRS. GERLACH, ISAACS, AND SCHWARTZ.

SURG. 103E.

In a series of six periods of four hours, in the Outpatient Otolaryngology Clinic, junior students are individually instructed in the techniques of the examination of the ears, nose, and throat. One hour of basic audiological technique is presented to each group by an audiologist, one hour of introductory speech pathology is presented by a speech pathologist.

SURG. 104E.

An advanced period of elective study with emphasis on diagnosis and treatment is available to approximately 18 senior students each year as an alternate elective

surgical specialty for one month's duration. In the Outpatient Department, diagnostic problems are presented at conferences with the staff department head twice each week and thoroughly reviewed in the light of current practice. Two sessions each week are available to the student to assist in the operating room and two sessions each week are available in the bronchoesophagology clinic. Each student is responsible for evening emergency calls on Ear, Nose, and Throat and examination of the patients admitted on the service. Daily ward rounds are carried out with the students.

Division of Thoracic Surgery

Doctors: ATTAR, LINBERG, MC LAUGHLIN, MILLER, AND STAFF.

SURG. 104F.

Senior students participate in the care of these patients in the operating rooms and on the wards of University, Mercy and Mt. Wilson Hospitals. In addition, they receive instruction in diagnostic bronchoscopy, esophagoscopy, cardiac catheterization, angiocardiography, and pulmonary function studies.

Division of Urologic Surgery

Doctors: YOUNG (HEAD OF DIVISION), CAMPBELL, GALLEHER, MAYS, AND STAFF.

SURG. 103D.

Instruction is given to junior students in this division in the diagnosis of urologic disease of both men and women. The general aspects of instrumentation are discussed and the roentgenologic evidence of urologic disease is emphasized.

SURG. 104D.

Students are assigned patients in the University Hospital wards. Further instruction is given in diagnosis and instrumentation of these patients and in the x-ray diagnosis of urologic disease.

Continuing Education Courses

CONTINUING EDUCATION COMMITTEE

EPHRAIM T. LISANSKY, M.D., Chairman and Director GERALD M. WAGGER, M.D., Assistant Director MRS. ELIZABETH B. CARROLL, Executive Secretary

RAYMOND L. CLEMMENS, M.D.

THOMAS B. CONNOR, M.D.

VIRGINIA HUFFER, M.D.

ARLIE R. MANSBERGER, JR., M.D.

EDMUND B. MIDDLETON, M.D.

ERLAND NELSON, M.D.

HOWARD F. RASKIN, M.D.

LEONARD SCHERLIS, M.D.

WILLIAM S. SPICER, JR., M.D.

DONALD A. WOLFEL, M.D.

THEODORE E. WOODWARD, M.D.

DEAN WILLIAM S. STONE, M.D., Ex Officio

In an effort to assist the practicing physician to keep abreast of the newer developments in the science and practice of medicine, the Continuing Education Committee continues to offer courses in a variety of subjects. At this writing, it is planned to present on our campus, courses as follows:

COURSE	DURATION
Advances in Medical Science	2 hrs./day, 1 day/week, 12 weeks
Basic Electrocardiography	1 day
Clinical Anatomy	3 hrs./day, 2 days/week, 15 weeks
Clinical Cardiology	l day
Dermatology	1 day
Diabetes	1 day
Eye, Ear, Nose, and Throat	1 day
Family Counseling	3 days
Gynecology	1 day
Hematology	1 day
Infectious Diseases	4 days (In association with
	American College of Physicians)
*In-Service	5 days (or longer if requested)
Neurology for Internists	4 days (In association with
	American College of Physicians)
Neuropathology for Pathologists	5 days
Obstetrics	1 day
Psychiatry for Internists	5 days (In association with
	American College of Physicians)

*The In-Service program is one in which the various departments, or divisions within departments, are open to physicians interested in a particular facet of

1 day

Surgical Physiology

clinical medicine. Only a small number of enrollees can be accommodated at any one time, and arrangements to stay for more than 5 days may be arranged between the Chairman of the Continuing Education Committee and the Head of the Department involved. The Departments of Medicine, and its various divisions, and the Departments of Neurology, Psychiatry, and Pediatrics lend themselves more conveniently to this type of postgraduate education. The Departments of Surgery, Anesthesiology, and Obstetrics and Gynecology are less applicable to this program, but some type of In-Service program might be arranged after private consultation with the Chairman of the Continuing Education Committee and the Head of the Department involved.

Inasmuch as this catalog material is being prepared in 1966 and is intended to cover activities through 1969, it is possible that new courses may be devised and others deleted during the intervening period. Please contact the Continuing Education Committee of the University of Maryland School of Medicine for

further information regarding postgraduate courses.

Matriculants

FIRST YEAR

Class of 1970

Name
Allender, Carlton Reay, Jr., B.A.
Anderson, Arthur Osmund, B.S.
Anderson, Willie Albert, B.A.
Ardolino, Harry Anthony, A.B.
Aronowitz, Jerome David, B.A.
Austin, George Lynn, B.S.
Baker, Alva Sayrs, III, B.A.
Baltins, Aldis, B.S.

Barney, Robert Lee, A.B.

Bartek, Francis Andrew, B.S. Belaga, Gary A., B.S. Berkeley, David Howard, A.B. Berman, David Harold, B.A., M.S.

Bloomfield, Richard Alan, B.S. Bookoff, Charles Neal, B.S. Bowser, Michael Aaron, A.B. Braun, Martin, III, A.B. Briele, Henry Alison, Jr., B.A. Buchdahl, Alice Jean, B.A.

Burkhart, Hanes Aleen, B.A. Byrne, Robert Francis, B.S. Cahill, Edward, B.S.

Undergraduate School Bridgewater College, 1965 Wagner, 1966 University of Virginia, 1966 Providence, 1966 University of Michigan, 1966 Johns Hopkins University, 1966 Western Maryland, 1966 Georgetown University and University of Maryland, 1966 Columbia Union College and University of Maryland, 1964 Loyola, 1966 University of Maryland, 1966 Cornell University, 1966 Grinnell and University of Illinois, 1964, 1966 University of Maryland, 1966 George Washington University, 1966 Holy Cross, 1966 University of Maryland, 1966 Colgate University, 1966 Goucher and University of Michigan, 1966 University of Denver, 1966 University of Scranton, 1966 University of Maryland, 1966

Home State
Maryland
New York
Maryland
Rhode Island
New York
Maryland
Maryland
Maryland

Maryland

Maryland Maryland New York Illinois

Maryland Maryland New York Maryland Maryland Maryland

Maryland Resident Maryland

Cameron, Carol Estelle, B.M., M.M. Peabody Institute, 1955, 1957 Caulfield, John Philip, B.S. Cramer, Dwight Evers, B.S. Courtney, Leo Albert, III, B.S. Craven, Robert Brent, B.S. Cumming, Robert Gordon, B.S. Cunningham, Joseph Harry, Jr., A.B. University of Delaware, 1966 Daly, Timothy Paul, B.A. Davids, Joseph Zelig Davis, Mitchell Elliott, B.S. Davitz, Jerald Stuart, A.B. Douglas, Donald Dean, B.S. Dubansky, Stephen Aaron, B.S. Edmonds, Paul, B.S. Egbert, Robert Nelson, B.A. Epstein, Ralph Benjamin, A.B. Evers, Peter Laval, A.B. Fisher, Gary Philip, B.S. Friend, Joseph Neidig, B.S. Fuhrmann, Calvin Folk, A.B. Gordon, Julian Allan, B.A. Grasso, Michael Anthony, B.A. Green, David Philip, B.S. Greenberg, Stephen Baruch, B.A. Hakkarinen, Wm. David, B.S. Halikman, Louis Schaff, B.S. Heyman, Meyer Reuben, B.S. Higgins, Ivanhoe Bradshaw, Jr., B.A. Rutgers University, 1966 Hirsch, Howard Mark Hisloop, Donald Hugh, A.B., M.S.

Ho, Lin Hsueh, B.S.
Hoffman, James Michael, A.B.
Hoffman, Kenneth Michael, B.S.
Houghton, Whitney, B.S.
Hurwitz, Dennis Jay, B.S.
Kahan, Sherman, B.S.
Kanner, Howard Roy, B.A.
Katz, Robert Stephen, B.A.
Kilham, Michael, B.A.
Klein, Gary Arnold, B.S.
Kline, Thomas Frederick, A.A., B.S.

Swarthmore, 1966
Franklin and Marshall, 1966
University of Maryland, 1965
University of Maryland, 1966
Lehigh University, 1966
Columbia University, 1966
Dartmouth College, 1966
Loyola College, 1966
Loyola College and University

Koeppel, Jerome, A.B. Koerber, Walter Albert, Jr., B.S.

Kopper, James Andrew, B.S. Kressler, John Franklin, A.B. Lapoint, John Malcolm, B.S. Lavenstein, Bennett L., B.S. Leass, Donald Leon, A.B. Lebherz, Wm. Bennet, III, B.S. Levin, Stephen Norman, B.S. Levinson, Mark Barry, B.S. Levy, Juan Manuel, B.S. Lewis, Henry Allen, B.S. Lynn, Wm. Louis, III, B.S.

Loyola College, 1966 University of Maryland, 1966 University of Maryland, 1966 University of Virginia, 1966 University of Maryland, 1966 LaSalle-Purdue University, 1965 University of Maryland, 1966 George Washington University, 1966 University of Maryland, 1966 Creighton University, 1966 Union College, 1966 Trinity College, 1966 Johns Hopkins University, 1966 Johns Hopkins University, 1966 George Washington University, 1963 University of Maryland, 1966 University of Pittsburgh, 1965 Western Maryland, 1966 Yeshiva University, 1966 Seton Hall University, 1966 Geo. Washington University, 1966 Johns Hopkins University, 1966 University of Maryland, 1966 Loyola College, 1966 University of Maryland, 1966 Franklin and Marshall Johns Hopkins University, 1962 American University, 1966 Swarthmore, 1966 Franklin and Marshall, 1966 University of Maryland, 1966 Notre Dame of Maryland, 1965 University of Maryland, 1966 University of Maryland, 1966 Lehigh University, 1966 Columbia University, 1966 Dartmouth College, 1966 Loyola College, 1966 of Maryland, 1964, 1966 Syracuse University, 1949 West Virginia University College of Agriculture, 1965 University of Maryland, 1966 Western Maryland, 1964 University of Miami, 1966 George Washington University, 1966

Clark University, 1966

Loyola College, 1964

Albion College, 1966

Loyola College, 1965 Dickinson College, 1966

St. Mary's College, 1966

University of Maryland, 1966

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Mackowiak, Philip Arthur, B.S. Mahaffey, Jane Eliz., B.S. Marburg, Kenneth Chas. B.A. Marek, Chas. Bernard Jr., B.A. McCarthy, John Paul, B.S. McCready, Daniel Roy, B.S. Meehan, Peter Leo, B.S. Micgalski, Jos. Potter, A.B. Miller, Gary Wayne, A.B. Mills, Lasrence, Jr., B.A. Monsour, Roy Everett, B.S. Murphy, James Stephen, B.S. Myerowitz, Paul David, B.S. O'Neill, James Patrick, III, A.B. Parker, Leslie Karol, B.A. Parran, Jay Neil, B.S. Perry, David Arnold, B.S., M.A.

Pollard, Richard Byrd, Jr., B.S. Posner, David Browne, B.S.

Prostic, Edward Joel, B.S. Queensberry, Wm. Otis, Jr., B.S. Rehert, Gerald Martin Richards, Rufus Henry, B.S. Robinson, Walker Lee, B.S. Samaras, George Charles, B.A. Sarlin, Robt. Frank, B.S. Schneidmuhl, Cecilia, A.B. Schreter, Robt. Kolker, B.A. Schulten, Herbert John, A.B. Schultz, Melvin James, Jr., A.B. Schumer, Dennis Robert, B.A. Schwarz, Hans Jeurgen, B.S. Shpritz, Louis Arthur, B.S. Shuman, Martin Jerry, B.S. Silverman, David Lee, B.S. Silverman, Michael Alan, B.S. Sobczak, Gregory T., B.A. Steinberg, Alan Zelig, B.S. Tapper, David, B.S. Taylor, Norman Wayne, B.S. Tseng, Sze (Stanley) Chuen, B.A. Ugorji, Clement C., B.S. Vicini, Henry Thos., B.S. Wade, Michael James, B.S., M.S. Wagner, Arthur Malcolm, B.A. Ward, Roberta Ann, B.S. Warren, William Addison, A.B. Warwick, Arthur Mark, B.A. Weiner, Charles Irving, B.A. White, Robert Irving, B.S. Wirsing, Charles John Jr., B.S. Woolsey, Carl T., Jr., B.S. Zaborowski, Stanley Milton, B.S. Zeller, Norman Lee, B.A.

Bucknell University, 1966 Allegheny College, 1966 Wesleyan University, 1966 Johns Hopkins University, 1966 University of Maryland, 1966 Western Maryland, 1966 Holy Cross, 1966 Dartmouth, 1966 West Virginia University, 1966 University of Pennsylvania, 1966 University of Maryland, 1966 University of Notre Dame, 1966 University of Maryland, 1966 Fordham University, 1966 Goucher College, 1966 Case Institute of Technology, 1965 Massachusetts Institute of Technology and University of Massachusetts, 1960, 1963 University of Maryland, 1966 California Institute of Technology, 1966 Union, 1966 Duke University, 1966 University of Maryland Atlantic Christian, 1966 Morgan State, 1962 Gettysburg College, 1966 University of Maryland, 1966 Temple University, 1965 University of Pennsylvania, 1966 Rutgers University, 1966 Harvard, 1965 Duke University, 1966 University of Maryland, 1961 University of Maryland, 1966 University of Maryland, 1966

American University, 1966

University of Maryland, 1966

Wayne State University, 1965

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University of Maryland, 1965

Georgetown University, 1966

Western Reserve, 1966

Gettysburg College, 1966

University of Utah, 1965

St. Peter's, 1966

LaVerne, 1964

Wesleyan University, 1966

University of Maryland, 1966

University of Utah, 1964; 1966

University of Pennsylvania, 1966

Pennsylvania State University, 1966

University of North Carolina, 1965

Berea, 1966

Livingston, 1966

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Maryland

New York

Maryland

Maryland

Maryland

Connecticut

New Jersey

Maryland

Utah

Ohio

Utah

SECOND YEAR

Class of 1969

Name Applefeld, Mark Michael, B.S. Aston, Edward Ernest, Jr. Ballard, James Otis, III, B.A. Banfield, William John, B.S. Bendit, Emil Abraham, B.S. Bercu, Barry Bernard, B.S. Berk, Sanders Harris, B.S. Blasko, John Chas., B.S. Boyer, Constance Lynn, A.B. Braitman, Barbara Sue, B.A. Brown, George Robert, B.S. Brownell, Douglas Allen, A.B., A.A. San Jose State College and

Brull, Stanley, B.S. Bryan, Donald William, B.A. Caplan, Howard Saul, A.B. Carter, Edward Allen, A.B. Chideckel, Elliott Wolfe, B.S. Cohan, Vaughn Dennis, B.S. Connors, Paul Joseph, A.B. Cooper, John Arthur, B.S. Copeland, Jay Stuart, B.S. Crawford, George Andrew, B.S. Crevey, Barry Joseph, B.S. Cutler, Leonard Dean, A.B. Davidov, Howard Allen, A.B. DeLeo, Dennis M., B.A. Doyle, Andrew Martin, B.S. Eaddy, John Albert, B.S. Eby, Barbara Jo-Anne, A.B. Elson, Ronald Lee, B.A. Emley, Michael J., A.B. Esterson, Joseph Benson, B.S. Evers, Kathryn, A.B. Faden, Howard Syd, B.S. Faustine, Anthony Frank, B.S. Fisher, Richard Ernest, B.S. Freedenburg, Daniel J. Jr., A.B. Friedman, Barry Howard, A.B. Gibbas, Donna Lee, B.S. Gilmer, Graham, III, A.B. Godshalk, Mirian Fredrica, B.A. Goldberg, Samuel David, A.B. Goldstone, David Franklin, B.A. Goodman, Roy Roddy, B.S. Gordon, Marvin Jay Green, Phillip Michael Grosh, Julieta D., B.S. Gurley, Hubert T., Jr., B.S. Harper, Jay G., B.S. Harshberger, Waldo B., III, A.B. Undergraduate School Home State Washington and Lee University, 1965 Maryland University of Maryland New Jersey West Virginia University, 1965 West Virginia Holy Cross College, 1963 Maryland University of Michigan, 1965 Maryland University of Maryland, 1965 Maryland University of Maryland, 1965 Maryland University of Maryland, 1965 Maryland Hood College, 1965 Maryland University of Wisconsin, 1964 Maryland Lovola, 1964 Maryland California

College of San Mateo, 1962, 1965 Loyola, 1964 Maryland University of Utah, 1965 Utah Johns Hopkins University, 1965 Maryland West Virginia University, 1965 Maryland Lovola, 1964 Maryland University of Maryland, 1964 Maryland Holy Cross College, 1965 Massachusetts University of Maryland, 1965 Maryland University of Maryland, 1965 Maryland Loyola College, 1965 Maryland Mt. St. Mary's College, 1965 Maryland University of Maryland, 1965 Maryland Western Maryland College, 1963 Maryland Johns Hopkins University, 1964 Maryland University of Maryland, 1965 Maryland University of Tennessee, 1962 Maryland Goucher College, 1965 Maryland Brandeis University, 1965 Maryland Houghton, 1965 Maryland University of Maryland, 1964 Maryland Trinity College, 1964 Maryland Maryland University, 1965 Maryland Massachusetts Purdue University, 1965 Antioch College, 1965 Delaware University of Maryland, 1965 Maryland Western Maryland College, 1965 Maryland University of Maryland, 1964 Maryland Stanford University, 1964 California Hood College, 1965 New Jersey Franklin and Marshall, 1965 Maryland Western Maryland College, 1963 Maryland University of Maryland, 1964 Maryland University of Maryland, 1965 Maryland University of Wisconsin, 1965 Maryland University of Utah, 1964 Utah Duke University, 1965 Maryland University of Maryland, 1965 Maryland Frostburg State College, 1965 Maryland

Heisel, Robert Alan, B.S. Herskovic, Arnold Manfred, B.S. Herskovic, Thomas Michael, A.B. Howell, Daniel Meredith, B.S. Hull, Kenneth Leo. B.S.E.E., M.S.E.E. Humphreys, Roberta Marie Hussey, Kathryn Evers, A.B. Kappelman, Mark David, A.B. Karr, Reynold Michael, Jr., B.A. Katz, Ronald Alan, B.S. Katzel, Lester David, A.B. Kaufman, Felix Lee, B.A. Kessler, Stanton Coleman, B.S. Kolker, Richard Jay, B.S. Kosnik, Edward James, B.S. Krause, Donald Warren, B.A. Leadbetter, Allen Wm., B.A. Lee, Audrey Diana, A.B. Levinson, Arnold Irving, B.S. Lipton, Andrew Bruce, B.A. Margolis, Murray Lee McCluggage, Chas. Wade, B.S. McCormick, John Richards, B.S. McCutcheon, Michael Edw., B.A. McNeely, Warren David, B.S. Meseroll, William Peter, B.S. Miles, Thomas Paul, B.A. Milholland, Arthur V., B.S. Miller, Michael Stephen, B.S. Mohler, Edwin Eugene, B.S. Moran, Daniel John, Jr., B.S. Morgan, Morgan, B.S. Mullis, Oscar Lee, Jr., A.B. Nadol, Robert, B.S. Parks, Ronald R., B.S. Parris, Wayne Howard, Paul, Malcolm David, B.S. Pfeifer, Donald Michael, B.A. Phillips, Robert Wayne, B.A. Pierce, Leslie Harrell, Jr., A.B. Pollard, John Davis, Jr., A.B. Potyka, James Smulin, B.A. Quinn, Edward Francis, II Rabinovich, Harris, B.S.E.; M.S.

Reinstein, Leon, B.S. Rice, Donald Ervin, B.A. Richmond, David Russell, Roberts, Polly Ann Benbow, A.B. Rubin, Allan Ira Sabloff, Jeffrey Dennis, B.S. Saunders, Brian Stanley, A.B. Schneider, Ronald Lynn, B.A., M.A. Brooklyn College, 1957, 1961 Schrank, Wm. Winslow, A.B. Segal, Alan James, A.B.

University of Maryland, 1965 University of Maryland, 1965 Johns Hopkins University, 1965 University of Maryland, 1965 University of Kansas and University of Illinois, 1961, 1962 Mt. St. Agnes College, 1965 Trinity College, 1964 Western Maryland, 1965 Johns Hopkins University, 1964 University of Cincinnati, 1964 Columbia University, 1965 Franklin and Marshall, 1965 University of Maryland, 1965 University of Pennsylvania, 1965 Loyola College, 1965 University of New Hampshire, 1963 Johns Hopkins University, 1965 University of Rochester, 1956 University of Maryland, 1965 Lehigh University, 1965 University of Virginia, 1964 Ohio State University, 1965 Franklin and Marshall, 1965 Bowdoin College, 1965 Alleghany College, 1965 University of Maryland, 1965 University of Virginia, 1965 Boston College, 1965 University of Maryland, 1965 Mt. St. Mary's College, 1965 University of Scranton, 1964 University of Maryland, 1965 Elon College, 1962 University of Maryland, 1965 University of Maryland, 1965 University of Maryland, 1965 University of Maryland, 1965 Rutgers University, 1965 Cornell University, 1965 Williams College, 1965 Syracuse University, 1964 Lehigh University, 1965 University of Maryland, 1964 Johns Hopkins, 1959 University of Maryland, 1965 University of Maryland, 1964 Alfred University, 1965 University of Maryland Goucher College, 1965 University of Pittsburgh, 1965 University of Maryland, 1965 American International College, 1965 Massachusetts Haverford College, 1965

Brown University, 1965

Maryland Maryland Maryland Maryland Maryland Maryland Maryland New York Maryland

Massachusetts Maryland Maryland Maryland Maryland Maryland Connecticut Maryland Maryland Maryland New York Maryland Maryland Maryland New Jersey Maryland Maryland Maryland Maryland Maryland Pennsylvania Maryland Maryland North Carolina Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland Pennsylvania Maryland

Maryland Maryland Maryland Maryland Maryland New Jersey Maryland Maryland New York

Maryland

Seitz, Barbara JoAnne Eby, A.B. Shaffer, John Wade, B.A. Shawker, Thomas Harry Shobin, David Michael, A.B. Skitarelic, Kathryn Francis, A.B. Smith, John Arthur Smulyan, William Isaac, B.A. Snyder, David Howard, B.A. Sohr, William Eric, B.S. Solomon, David Allan, B.S. Spencer, Tracy Neil, III, B.A. Stanfield, Ronald Jeffrey, B.S. Stueber, Kristin, B.A. Stieglitz, Mimi Anne, B.S. Stolberg, Acosta, Robert Allan, B.S. Sugar, Mark Steven, B.A. Turk, Ellis, B.A. Turnbaugh, Lois, A.B. Ullman, Kenneth Chas., B.S.

Voelkel, Paul Brown, A.B. Wall, Haven Neill, Jr., B.S. Wike, David Allen, B.S. Wilson, John Wesley, B.S.

Zeligman, Bernard Elihu, A.B.

Goucher College, 1965 Johns Hopkins University, 1965 University of Maryland, 1965 University of Pennsylvania, 1965 University of West Virginia, 1965

Franklin and Marshall, 1965 Western Reserve University, 1965 University of Maryland, 1965 University of Maryland, 1965 University of North Carolina, 1965 University of Maryland, 1965 Mt. Holyoke College, 1965 Mercer University, 1965 University of Puerto Rico, 1965 Hobart College, 1965 Western Maryland College, 1965 Western Maryland College, 1959 University of Maryland (Pharmacy), 1965 University of Pittsburgh, 1964

Marshall University, 1965 University of Maryland, 1965 University of Maryland (Pharmacy), 1963

Johns Hopkins University, 1965

Maryland West Va. Maryland Maryland Maryland P. R. Maryland Maryland Maryland

Pennsylvania W. Va. Maryland Maryland

Maryland

Maryland

THIRD YEAR

Class of 1968

Name Allison, Samuel Bertram, A.B. Amoss, Willard Pitzer, A.B. Baum, Richard Alan, A.B. Beamon, Charles Ralph, Jr., A.B. Bearman, Sheldon Barry, A.B. Benenson, Michael Wm., A.B. Berman, Ethel Ann, A.B. Blum, Barry Alan, A.B. Blumberg, Morton Barry, A.B. Bowen, Bruce James, B.S. Britton, Robert Mark, B.S. Brull, Robert, B.S. Buddington, Richard Spencer, A.B. Caldwell, John Leo Callaghan, Jos. Francis, Jr., B.S. Caplan, Ellis Sanford, B.S. Cherry, Joel Mayer, B.S. Clopper, Todd Dalton, A.B. Cohen, Elliot Sanford, B.S. Colligan, Franklyn William, B.S. Daw, Albert Lee, A.B. Deegan, Michael John, B.S. Edwards, Charles C., A.B. Egloff, Allen Clark, A.B. Fausel, Robt. Wilton, Jr.

Undergraduate School Swarthmore College, 1964 Western Maryland, 1964 Brown University, 1964 Johns Hopkins University, 1963 University of Pennsylvania, 1964 Cornell University, 1963 Wheaton College, 1964 University of Maryland, 1963 University of Maryland, 1962 Trinity College, 1964 University of Maryland, 1964 University of Maryland, 1961 Duke University, 1964 Mt. St. Mary's College Boston College, 1964 University of Maryland, 1964 George Washington University, 1963 Franklin and Marshall College, 1964 University of Maryland, 1964 University of Maryland, 1962 University of Virginia, 1957 St. Joseph's College, 1964 Trinity College, 1964 Grinnell College, 1964 University of Maryland,

Home State Delaware Maryland Maryland Virginia Maryland New York New Jersey Maryland Maryland Maryland Maryland Maryland Maryland Maryland Massachusetts Maryland Maryland New Jersey Maryland Maryland D. C. New Jersey Maryland D. C. Maryland

Feldman, Gerald Barry, B.S. Fligsten, Kenneth Eugene, B.A.

Franklin, Frank Anthony, Jr., B.S. Friedman, Howard Ronald, A.B. Frizzera, John Gordon, B.S. Fulton, Edwin Cockey, B.S. Gambrill, Raymond, III, B.S. Gehlert, Sidney Richard, III, B.S. Gelin, John deCourtenay, A.B. Glick, Ronald Sheldon Goldstein, Wm. Neal, A.B. Green, Gerald Ira, B.S. Groover, Jack Rochard, B.S. Handwerger, Barry Sheldon Harris, Roger Clark, A.B. Hart, William M., Jr. Herman, Melvin Herbert, Jr., B.S. Hess, Douglas Boone Hooper, Stephen LeRoy, A.B. Horowitz, Irvin Robert, B.S. Hubka, Ronald Richard, A.B. Hyman, George Fredric, B.S. Kane, James Gregory, Jr., B.S. Keech, Richard Chas., B.S. Keegan, Kirk A., Jr., B.S. Knefely, Geo. McLanahan, Jr., A.B. Western Maryland College, 1964 Knowles, Frederick Edwin, III, A.B. Harvard College, 1964 Koski, Carol Lee, B.S. Kulik, Frank Albert, B.S. Lancelotta, Charles Joseph, Jr., A.B. Loyola College, 1964 Lazarus, Barry Alan, A.B. Legum, Ronald Michael, A.B. Levenson, Stanley M., B.S. Levin, Gordon Leonard, B.S. Litt, Abraham Abba, B.S. Little, Raymond Roger, B.S. Littman, Philip, A.B. Long, Wm. Broughton, III, B.S. Mahoney, Carroll Davis, B.S. Malinow, Stanford Howard, B.S. Manekin, Steven Frederick McGuire, Terence Aloysius, B.S. McNinch, Eugene Robinson, Jr.,

Mech, Karl Frederick, Jr., A.B. Mendelsohn, Herbert Eugene, A.B. Merlis, Anthony Logan, A.B. Mikesell, Kathryn Ann, A.B. Miller, Bruce Lawrence, A.B. Morgan, Beverly Estelle Morton, Bert Frederick, A.B. Nordgren, A. Curtis, B.S.

Norwood, Thomas Hyatt, A.B. Pattee, Burton Charles, B.S. Potosky, Ronald Stephen, A.B.

University of Maryland, 1963 University of California at Los Angeles, 1960 Yale University, 1964 Yeshiva College, 1964 University of Maryland, 1964 Eastern Michigan University, 1963 University of Maryland, 1964 Loyola College, 1964 Johns Hopkins University, 1964 University of Maryland Oberlin College, 1964 University of Maryland, 1964 University of Georgia, 1964 Johns Hopkins University University of Maryland, 1961

The Citadel, 1964 Gettysburg College University of Pennsylvania, 1963 University of Maryland, 1964 University of Maryland, 1964 Union College, 1964 Loyola College, 1954 Johns Hopkins University, 1964 The Citadel, 1964 Goucher College, 1964 Columbia University, 1960 Western Maryland, 1964 University of Maryland, 1964 University of Wisconsin, 1964 University of Maryland, 1964 University of Maryland, 1964 University of Maryland, 1964 Stamford University, 1962 University of Maryland, 1964 University of Maryland, 1964 University of Maryland, 1964 University of Maryland, 1963 Georgetown University, 1964 Swarthmore College, 1964

Wesleyan College, 1964 Western Maryland College, 1964 Johns Hopkins University, 1964 University of California, 1964 Western Maryland College, 1964 Morgan State College Western Reserve University, 1963 Massachusetts Institute of Technology, 1963 Brown University, 1960 Antioch College, 1964 Johns Hopkins University, 1964

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New Jersey Maryland Maryland Maryland Maryland Maryland Delaware Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland Pennsylvania Maryland Maryland Maryland New York Maryland Maryland Massachusetts Maryland Delaware

Maryland Maryland Maryland D.C. Maryland Maryland Ohio Kansas

Maryland Iowa Maryland Quillen, Carl Gray, A.B.
Rankin, Thos. Vincent, B.S.
Reed, Wm. Arno, B.S.
Renbaum, Joel Wm., A.B.
Riddlesberger, Merchline Mills, Jr.,
B.S.
Riley, David Joseph A.B.
Rimash, Rorick Theodore, A.B.

Riley, David Joseph A.B. Rimash, Rorick Theodore, A.B. Rivera-Reyes, Luis Raphael, B.S. Roihl, Norbert Henry, A.B. Rosenbaum, Stephen David, A.B. Rosensteel, Robert Jos., Jr., B.S. Rosenstock, Jeffrey Gallant, A.B. Samorodin, Charles Steven Schaefer, Walter Charles Schonfeld, Burton Gary, A.B. Semins, Howard, A.B.

Shack, Michael John Shaw, John Marx Spielman, Stuart Henry, A.B. Stafford, John Davis, A.B. Staufer, Wilfred Bryan Stuart, Franklin Richard, Jr. Stuppler, Stephen Allen, B.S. Tannenbaum, Alice Susan, B.S. Turner, Elizabeth Anne, B.S., M.S.

Valigorsky, Jon Michael, B.S.

Vergne-Marini, Pedro Juan, B.S. Volcjak, Edward Eugene, B.S. Wambaugh, George Wilmar, Jr., B.S. Weimer, Stanley Robert, B.S. Welsh, James Joseph, Jr., B.S.

Whitworth, Michael Franklin, A.B. Widmeyer, Robert Samuel, II Williams, Robert Thomas Williams, William Morgan, B.S. Willis, Eigene, Jr. Winakur, Stuart, B.S.

Winter, Stephen Lee, A.B. Wolfe, Irving Darryl, A.B. Woodrow, Kenneth M., A.B. Young, Edward John, A.B., M.S.

Zavis, Daniel Thor, B.S.

Lafayette College, 1964 Loyola College, 1964 University of Maryland, 1964 Johns Hopkins University, 1964 Dickinson College, 1964

Johns Hopkins University, 1964
Johns Hopkins University, 1964
University of Puerto Rico, 1964
Cornell University, 1964
Western Maryland College, 1964
Loyola College, 1964
Columbia College, 1964
University of Maryland
University of Maryland
Johns Hopkins University, 1964
Washington and Jefferson
College, 1964

Washington and Jefferson College, 1964 Randolph-Macon College, 1964 Union College, 1964 Columbia University, 1964 San Jose State College, 1963 University of Maryland University of Utah University of Maryland, 1964 University of Maryland, 1964 Maryville College and Drexel Institute of Technology, 1958,

University of Maryland (Munich), 1963 University of Puerto Rico, 1964 University of Maryland, 1963 Loyola College, 1964

Pennsylvania State University, 1964 University of Maryland (Pharmacy), 1963 Brown University, 1963

University of Maryland
University of Maryland
Western Maryland College
University of Maryland
(Pharmacy), 1963
University of Chicago, 1964
Johns Hopkins University, 1963
Wesleyan University, 1964

Columbia and Georgetown University, 1959, 1963 University of Maryland, 1963 New Jersey Maryland D. C. Maryland Pennsylvania

Maryland New York Puerto Rico New York Maryland Maryland Pennsylvania Maryland Maryland Maryland Pennsylvania

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Maryland

Pennsylvania
Puerto Rico
Maryland

Maryland Maryland

Maryland Maryland Maryland Maryland Maryland Maryland

Illinois Maryland New York New York

Maryland

FOURTH YEAR

Class of 1967

Name Abel, Elizabeth Ann, B.S. Undergraduate School Colby Junior College, 1961 Home State Maryland Alperstein, Joel Barry, B.S.
Adalman, Stephen Morris, B.S.
Banfield, Wm. John, B.S.
Bigbee, John Albert, B.S.
Bloomin, Sandra Lee, B.S.
Bloom, William Frank, A.B.
Bollinger, Mary Sue, A.B.
Boddie, Wm. Leon, B.S.
Bright, Donald St., A.B.
Butchart, John C., B.S.
Carter, Colvin Cecil, B.S., M.S.

Cohen, Edward Ralph, B.S. DeFelice, Charles E., B.S. Dobrzycki, Gerard D., B.S. Drake, Frances Dalton, B.S. Dyro, Frances Mary, B.S. Eagle, Perry Alan, B.S. Earles, Gordon Homer Emory, Thomas E., A.B. Feldman, Harris J., A.B. Feldman, Larry Brian, A.B. Feuer, Henry, Fetterhoff, Ira Lincoln, A.B. Fine, Eric Michael, B.S. France, Robert Orville, A.B. Gareis, John William Gimbel, Joseph Samuel, A.B. Glushakow, Allen Stanley, B.S. Goffman, Joel Henry, B.S. Gracia-Culpeper, Jose R., B.S. Hadden, David Malcolm, A.B. Hamby, James Lawrence, B.S. Hertzog, Robert William, B.S. Hoffman, Arthur Michael, B.S. Houston, John Joseph, B.S. Hricko, George Medard B.S. Hughes, Arthur Lee, B.S. Ignatowski, John Stephen, B.S. Jackson, Jean Marlene, B.S. Jones, Philip Dickson, A.B. Jordan, Charles Edward, III, A.B. Kaliner, Michael Aron, B.S. Kandel, Elizabeth Earle, A.B. Kester, Eugene Francis, A.B. Konrad, James Gerard, B.S. Kraemer, Elihu Mark, B.S. Lapes, George Anthony, B.S. Lattin, Gary Marc, A.B. Lee, Michael Morgan, A.B. Lessans, Stuart Harvey, A.B. Lichtenstein, Jack Ruben Lytle, Gary Scott, A.B. Mack, Richard Henry, B.S. Markowitz, Sheldon L., A.B. McCaffrey, Robert James, B.S. McHold, David Stanley, A.B.

University of Maryland, 1961 University of New York, 1963 Holy Cross College, 1963 University of Maryland, 1963 Dickinson College, 1963 University of North Carolina, 1963 Immaculata College, 1962 Howard University, 1963 Princeton University, 1963 University of California, 1963 Howard University, 1959; Elizabethtown, 1963 University of Maryland, 1963 University of Maryland, 1962 University of Maryland, 1957 Virginia Military Institute, 1963 Massachusetts Inst. of Tech., 1963 University of Maryland, 1963 University of Maryland Johns Hopkins University, 1962 Western Maryland College, 1963 Johns Hopkins University, 1963 University of Maryland Carroll College, 1951 George Washington University, 1964 Franklin & Marshall College, 1964 University of Maryland University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Puerto Rico, 1962 Stanford University, 1957 University of Maryland, 1963 Morgan State College, 1963 University of Maryland, 1963 Georgetown University, 1962 Loyola College, 1961 Johns Hopkins University, 1961 University of Maryland, 1963 University of Rhode Island, 1963 Princeton University, 1963 Cornell University, 1963 University of Maryland, 1963 Goucher College, 1963 New York University, 1963 University of Maryland, 1962 Union College, 1963 University of Maryland, 1962 Johns Hopkins University, 1963 Ohio Wesleyan University, 1963 Johns Hopkins University, 1963 University of Maryland Temple University, 1961

University of Notre Dame, 1963

Washington University, 1963

University of Rochester, 1962

Morehead State College, 1962

Maryland New York Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland

Maryland Maryland Maryland Maryland Maine Maryland Puerto Rico California Maryland Maryland Maryland Maryland Maryland Maryland Maryland Rhode Island Maryland Maryland Maryland Maryland Maryland Maryland New Jersey D. C. Maryland Maryland Maryland Maryland New Jersey Ohio Maryland New York Maryland

McIntyre, John Milton, B.S. Miller, Louis Winaker, B.S. Mitnick, Alan Harvey, B.S. Myers, Boyd Douglas, A.B. Nelson, Fred Ritchie, A.B. Novicki, Donald Edward, B.S. O'Donnell, Thomas J., A.B. Orlando, Joseph C., B.S. Ostroff, Edward B., B.S.

Palmisano, Frank S., B.S. Paritzky, Arnold Z., A.B. Pelovitz, Howard Leon, B.S. Pfeffer, Bruce William, A.B. Pohost, Gerald M., B.S. Posner, Carol Jean, A.B. Pristoop, Allan Sanford, B.S. Raikes, Merrill C., III, A.B. Reymond, Ralph Daniel, A.B., M.A. Johns Hopkins University, 1959,

Rogers, John Francis, A.B. Rosen, Howard Roy, B.S. Routenberg, John Albert, B.S. Rowell, John Russell, Jr., B.S. Sachs, Marvin Coleman, B.S. Samuels, Jeffrey Allan, A.B. Sansone, Peter Frank, A.B. Schilling, Lee Howard, A.B. Sewell, John Calvert, B.S. Sherman, Michael Lewis, A.B. Sherr, Howard Paul, B.S. Shuster, Harold Frederick, B.S.

Skloven, Zellman David, A.B. Smith, John James, III, B.S. Snyder, David Michael, B.S. Sofferman, Robert Alan, A.B. Stapen, Joseph Ira, B.S. Stern, Kenneth Bernard, B.S. Sussman, Michael David, A.B.

Tierney, Lawrence M., A.B. Valigorsky, John Michael, B.S. Vogel, Donald Bruce, B.S. Wardlaw, Stephen Clark, Warner, Larry Joseph, B.S. Wendt, Charles Edw. Jr., B.S. Wexler, Alan Michael, B.S. Wilner, Gary Norman, B.S. Wolf, Alan Frederick, B.S. Yakaitis, Ronald Wm., B.S. Zorick, Frank John, B.S.

University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 Western Maryland College, 1963 Johns Hopkins University, 1962 Mt. St. Mary's College, 1963 Johns Hopkins University, 1963 Loyola College, 1962 Washington and Lee University, 1963 Loyola College, 1962 Johns Hopkins University, 1963 University of Maryland, 1963 Georgetown University, 1963

George Washington University, 1963 Swarthmore College, 1963 University of Maryland, 1963 Colby College, 1963 1963

Johns Hopkins University, 1963 Dickinson College, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 Johns Hopkins University, 1963 University of Pennsylvania, 1963 San Diego State College, 1961 University of Maryland, 1963 Duke University, 1963 College of the Holy Cross, 1963 Stevens Institute of Technology,

Cornell University, 1963 University of Maryland, 1963 Georgetown University, 1963 Lehigh University, 1963 University of Maryland, 1963 University of Maryland, 1963 Washington and Lee University, 1963

Yale University, 1963 University of Maryland, 1963 University of Maryland, 1962 University of Maryland University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1963 University of Maryland, 1961 University of Maryland, 1963 Loyola College, 1963 University of Maryland, 1963 Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland Maryland

Maryland Maryland Maryland Pennsylvania Maryland Maryland Maryland Maryland Maryland

Maryland Maryland Maryland Maryland Maryland Maryland Rhode Island Maryland Maryland Maryland Maryland Maryland

Maryland Maryland D. C. New Jersey New York Maryland Maryland

Connecticut Pennsylvania Maryland Maryland Maryland South Carolina Maryland Maryland Maryland Maryland Maryland

Geographical Distribution—Academic Year 1966–1967

	1st.	2nd.	3rd.	4th.	Total
British Guiana	1				1
California		2	1	1	4
Connecticut	1	1	1	1	4
Cuba	1				1
District of Columbia	1		7	2	10
Delaware		2	3		5
Florida			1		1
Hawaii				1	1
Illinois	3		1		4
Iowa			1		1
Kansas			1		1
Maine			1		1
Maryland	102	101	83	89	375
Massachusetts	1	4	2		7
Michigan	1				1
New Hampshire	1				1
New Jersey	4	4	6	3	17
New York	7	3	7	3	20
Nigeria	1				1
North Carolina		1			1
Ohio	1		1		2
Pennsylvania		3	4	3	10
Puerto Rico		1	2	1	4
Rhode Island	1			2	3
South Carolina				l	1
Utah	1	2			3
Virginia	1		1		2
West Virginia		3			3
TF 4 1			100		40.5
Total	128	127	123	107	485

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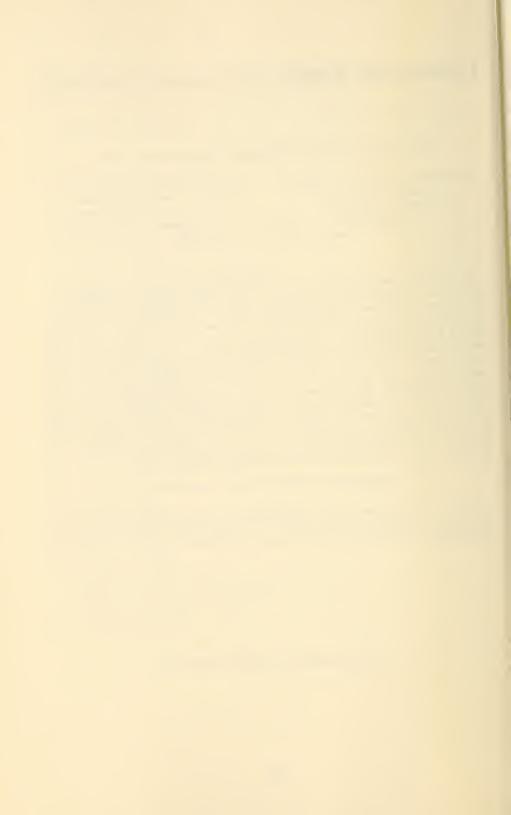
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Ances, I. G.		Belcher, H. V	
Anderson, A. R.		Bell, F. K.	
Anderson, A. W		Bereston, E. S	
Andres, R		Bergmann, H.	
Andrese, A. P		Bernstein, H. N	
Anthony, R. L.		Berry, R. Z	
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From "The State and the University" the inaugural address of President Wilson H. Elkins, January 20, 1955, College Park, Maryland.



SCHOOL OF MEDICINE

1969-1971

UNIVERSITY OF MARYLAND BULLETIN



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SCHOOL OF MEDICINE

1969-1971

UNIVERSITY OF MARYLAND



Medical School Calendar for 1969-1970

1969 SCHOOL CALENDAR

AUGUST SEPTEMBER	18-22	Re-examinations for advancement 1st year orientation Registration and payment of fees,
		2nd and 3rd years 9 A.M.*
	3	1st year orientation
		Registration and payment of fees,
		1st and 2nd years
		3rd year orientation

First semester begins September 4, 1969 and ends January 26, 1970

SEPTEMBER	4	Instruction begins for all classes
NOVEMBER	26	Thanksgiving recess begins at 5 P.M.
DECEMBER	1	Instruction resumes for all classes
	23	Christmas recess begins at 5 P.M.

1970 SCHOOL CALENDAR

JANUARY	5	Instruction resumes for all classes
22	and 23	Registration and payment of fees
		for second semester—all classes

Second semester begins January 26

JANUARY	24	Last day of first semester
	26	Beginning of second semester
MARCH	26	Easter recess begins at 5 P.M. for 3rd and 4th years.
	31	Instruction resumes for 3rd and 4th years
APRIL	10	Spring vacation begins at 5 P.M. for 1st and 2nd years
	20	Instruction resumes for 1st and 2nd years
	21 and 22	National Board Examinations, Part II**
MAY	22	Classes cease for 4th year at 5 P.M.
	29	Classes cease for 3rd year at 5 P.M.
	29	Classes cease for 1st and 2nd years at 12 noon
	30	Holiday—Memorial Day
JUNE	1 and 2	Examinations for 3rd year
	5	Pre-commencement—Baltimore Campus
	6	Commencement Exercises—College Park Campus
	1-5	Examinations for 1st and 2nd years
	16 and 17	National Boards, Part I**

^{*}ALL students are expected to complete their registration, including the payment of fees on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE OF \$20.00. The Office of the Registrar is in Howard Hall and the Office of the Comptroller is in the University; both offices are open Monday through Friday from 8:30 A.M. to 4:30 P.M.

^{**}National Board dates are TENTATIVE AND SUBJECT TO CHANGE.

1970 SCHOOL CALENDAR

AUGUST 17 SEPTEMBER	9	Re-examinations for advancement 1st year orientation Registration and payment of fees, 2nd and 3rd years 9 A.M.* 1st year orientation 3rd year orientation Registration and payment of fees, 1st and 4th years 9 A.M.*
First semester	heoins	September 10, 1970 and ends January 25, 1971
	_	begins for all classes SEPTEMBER 5
NOVEMBER	25	Thanksgiving recess begins at 5 P.M.
	30	Instruction resumes for all classes
DECEMBER	23	Christmas recess begins at 5 P.M.
	19	771 SCHOOL CALENDAR
JANUARY	4	Instruction resumes for all classes
21 and	22	Registration and payment of fees for second semester—all classes 9 A.M.*
	23	Last day of first semester
Å	Second	semester begins January 27, 1971
JANUARY	25	Beginning of second semester
FEBRUARY	22	Holiday—Washington's Birthday
APRIL	8	Easter recess begins for 3rd and 4th years at 5 P.M.

12-16 Spring vacation begins at 5 P.M. for 1st and 2nd years 13 Instructions resumes for 3rd and 4th years Instruction resumes for 1st and 2nd years 19 20 and 21 National Boards, Part II** MAY 21 Classes cease for 4th year at 12 noon Classes cease for 1st and 2nd years at 12 noon 29 29 Classes cease for 3rd year at 5 P.M. 30 Holiday-Memorial Day 1 and 2 Examinations for 3rd year JUNE Pre-commencement—Baltimore Campus 4 5 Commencement Exercises—College Park Campus 1-4 Examinations for 1st and 2nd years 15 and 16 National Boards, Part I**

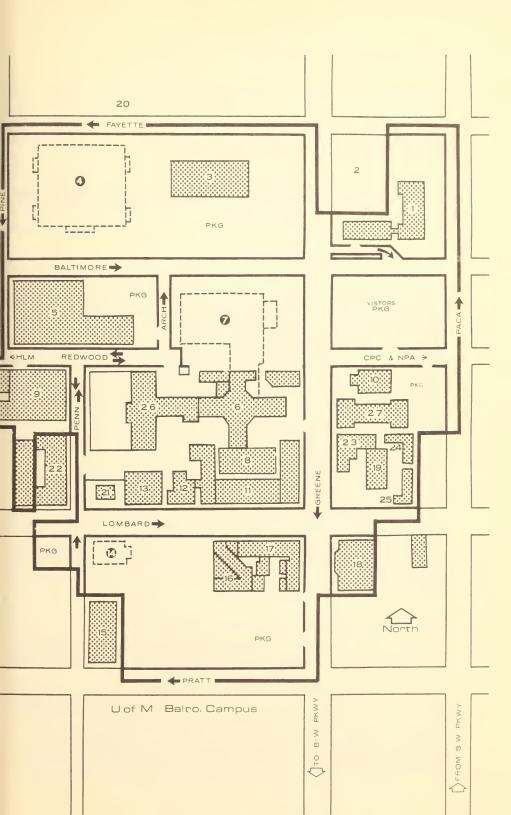
*ALL students are expected to complete their registration, including the payment of fees on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE OF \$20.00. The Office of the Registrar is in Howard Hall and the Office of the Comptroller is in the University; both offices are open Monday through Friday from 8:30 A.M. to 4:30 P.M.

**National Board dates are TENTATIVE AND SUBJECT TO CHANGE.

Key to University of Maryland Buildings

- 1. School of Law
- 2. Westminster Church
- 3. North Campus Parking Facility
- 4. New School of Dentistry
- 5. Howard Hall
- 6. Hospital
- 7. New North Hospital
- 8. School Trauma Center
- 9. Helistop and Parking Garage
- 10. School of Social Work and Administration Building
- 11. School of Dentistry
- 12. School of Nursing
- 13. School of Pharmacy

- 14. New School of Nursing
- 15. Post Mortem Exam
- 16. Baltimore Union
- 17. Out Patient Department
- 18. Health Science Library
- 19. Davidge Hall
- 20. Mental Health Hospital
- 21. Kelly Memorial Building
- 22. Western Health Dist.
- 23. Medical Tech. Building
- 24. Gray Laboratory
- 25. University College
- 26. Psychiatric Institute
- 27. Bressler Research Building



Requirements for Admission

GENERAL STATEMENT. The University of Maryland, in all its branches and divisions, subscribes to a policy of equal educational opportunity for peoples of all races, creeds and ethnic origins.

Policy on Admissions

Academic achievement, extra-curricular activities, personal characteristics, recommendations from college instructors or the premedical committee, scores on the Medical College Admissions Test, and personal interview are all carefully considered in evaluating an applicant. Academic achievement alone does not automatically insure acceptance as the Committee is equally concerned with personality, aptitude, character, integrity, motivation, and assessment of the individual as a potential physician. A letter of recommendation is required from the premedical committee. If there is no premedical committee, letters are requested from two science and one non-science course instructors. Letters from other sources are not encouraged. Candidates will be expected to complete all required premedical courses before June 15 of the year they are to matriculate. With permission of the Committee on Admissions, this requirement at times may be waived. All courses must be completed prior to registration in the School of Medicine in September.

Matriculants are required to accept the provisions of the Honor Code and to agree to assume its obligations prior to registration. A copy of the Honor Code and agreement form is sent to each candidate with notice of acceptance.

Although preference will be given to Maryland residents, applications from well qualified students from other areas of the United States and Canada are welcome. Because of the many applicants for the number of places available, applicants can be considered only if they are citizens of the United States or Canada. Applicants from foreign schools must complete at least two years of premedical work in an approved college or university in the United States or Canada.

Definition of Resident and Non-Resident

Students who are minors are considered to be resident students if, at the time of their registration, their parents have been domiciled in this State for at least six months.

The status of the residence of a student is determined at the time of his first registration in the University, and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of the State by maintaining such residence for at least six months.

However, the right of the minor to change from a non-resident to resident status must be established by him prior to the registration period for any semester.

Adult students are considered to be residents if, at the time of their registra-

tion, they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. Time spent on active duty in the Armed Forces while stationed in Maryland will not be considered as satisfying the six month period referred to above, except in those cases in which the adult was domiciled in Maryland for at least one year prior to his entrance into the Armed Services and was not enrolled in any school during that period.

The word domicile as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicle may be maintained.

Requirements for Admission to First Year Class

Careful attention should be given to the selection of elective courses, particularly in the natural sciences. Except under unusual circumstances the student should plan a four year curriculum with a suitable Arts and Science major leading to a bachelor's degree. A major in an area other than science is quite acceptable although it is not intended to divert students from a science major if this is their field of choice. The student taking science courses beyond the minimal requirements is encouraged to take such subjects as embryology, comparative anatomy, psychology, anthropology, physical chemistry, or cellular physiology. Courses duplicating medical school work, such as histology, neurology, biochemistry, mammalian physiology, human anatomy, and bacteriology are not recommended unless they are required in the student's major sequence. Having credit in such courses will not excuse students from taking them in medical school. In the non-science area courses in English, philosophy, sociology, economics, history and government and politics are recommended. Mathematics through calculus is also recommended.

Applicants who choose a non-science major should take a sequence of science courses which demonstrates their academic ability to capably handle the demands

made by these courses.

A minimum of 90 semester hours (three academic years) of acceptable college credit is required exclusive of physical education and military science, earned in colleges of arts and sciences whose names occur on the current list of "Accredited Institutions of Higher Education" as compiled by the National Committee of Regional Accrediting Agencies of the United States. Applicants who will have earned a bachelor's degree in arts and sciences before registration for medical school from an approved college or university will be given preference over applicants who have not completed the requirements for the bachelor's degree. Only those courses will be acceptable which are approved for credit towards an A.B. or B.S. degree by the university or college attended as well as the University of Maryland.

The following college courses and credits at an acceptable level are required

before registering for Medical School.

	Semester Hours
General biology or zoology	8
Inorganic chemistry	
Organic chemistry	
General physics	8
English	
Foreign language	6

No more than 60 hours can be accepted from accredited Junior Colleges and then only if these credits are validated by a college offering a Bachelor of Arts or Science Degree.

Applicants over the age of 26 cannot be encouraged to apply.

An evaluation of the applicant's credentials is made by members of the Committee of Admissions to determine if an interview is to be requested. This decision is based upon a composite estimate of the applicant's ability and future promise in the field of medicine as measured by his academic record to date, performance in the Medical College Admissions Test, recommendations of the premedical faculty, extracurricular activities, and the applicant's overall standing as compared with that of the other applicants applying that year. Such interviews must be scheduled in advance at the initiative of the Committee.

The Medical College Admission Test should be taken in May and must be taken no later than October of the year preceding the year of entrance. Applicants should write the Psychological Testing Corporation, 304 East 45th Street, New York, New York 10017, for further information and for registration forms.

Requirements for Admission to Advanced Standing

Students who have attended approved medical schools are eligible to file applications for admission to the second and third year classes only. These applicants must meet the current first year entrance requirements in addition to presenting acceptable medical school credentials, and a medical school record based on courses which are equivalent to similar courses in this school.

Application for advanced standing must be made no later than April 15 of

the year of desired admission.

No student can be considered who has been dismissed from any medical school unless his former Dean submits a letter addressed to the Committee on Admissions stating the student is reinstated in good standing and eligible for promotion.

No student can be considered who is not eligible for promotion at time of transfer.

Applicants for admission to third year class are required to complete satisfactorily the National Board Examination, Part I, before registration.

Persons who already hold the degree of Doctor of Medicine will not be admitted to the Medical School as a candidate for that degree from this University.

No applicants from foreign medical schools can be considered for advanced

Application for admission to advanced standing is made in accordance with instructions accompanying the application form.

Method of Making Application

Requests for application forms should be sent to The Committee on Admissions, School of Medicine, 522 West Lombard Street, Baltimore, Maryland 21201.

Application for admission to the first year class entering in September must be filed between July 1 and December 31 of the year prior to desired admission. Requests for application forms should be made after June 15. Application material cannot be released after December 15. The deadline for receiving the ap-

plication form is December 31.

It is very definitely in the best interests of the applicant to file the application form and supporting credentials early in the application period. Please do not have supporting credentials sent prior to filing a final application.

It is the responsibility of the applicant to see that all required credentials and the completed application packet are filed with and received by the Committee on Admissions. This especially applies to the letter of recommendation from the premedical committee, transcripts from all institutions attended (sent directly from that institution to the Committee), and the scores on the Medical College Admissions Test.

Orientation for New Students

All new students, whether they are admitted to the first year class or with advanced standing, are expected to attend Orientation for New Students.

Instruction Leading to the Degree of Doctor of Medicine

Organization of Curriculum

The curriculum is organized to permit students to acquire fundamental knowledge of the principles of medicine, establish habits of applying critical evaluation and judgment to problems of health and disease, and develop ethical principles

which inspire trust in their patients and respect of the community.

Instruction encompasses four academic years. The first and second years are largely devoted to the study of the basic medical sciences. In the first year, physiology, biochemistry, and biophysics are given as one correlated course, i.e., Introduction to Basic Medical Sciences and this is closely correlated with anatomy. After introductory laboratory experience, the students work in small groups on projects in any of the basic medical science departments. Each subject relates to the concept that basic knowledge has its clinical application. The student is guided in the acquisition of detail which he acquires by himself. A closely knit interdepartmental approach to the curriculum is being developed in order to enable the student to use the techniques and knowledge of basic science for the better understanding and more rational scientific approach to the clinical management of human illness. Student research is encouraged during the summer recesses and during the elective times in the curriculum. In most courses, the final examination as the sole test of achievement has disappeared, and the student's final grade is determined by examinations, seminars, conferences, and assigned work carried on throughout the course. Where applicable, teaching is done under the direction of a faculty committee from several departments. This

method of teaching provides better correlation and coordination of the subject matter with more thorough coverage of the principles involved. The student is expected to conduct himself or herself as a graduate student and to devote free time to areas of his or her special interests.

General Faculty Rules

The University authorities reserve the right to make changes in the curriculum, the requirements for advancement and graduation, fees, and in rules and regulations whenever appropriate.

Students who report for classes later than one week after scheduled time will

be permitted to begin work only by permission of the Dean.

Attendance at all scheduled classes is expected.

Notice of change of address should be submitted promptly to the Dean's Office and to the Registrar's Office.

Grading System

Official grades are designed by these symbols:

"3", "2", and "1"-in rank from highest to lowest

P-satisfactory completion of course

F—failure

I —incomplete

C-condition

Students will receive a grade for the various disciplines in the manner outlined below:

Anatomy Biochemistry Physiology Microbiology Pharmacology Pathology 3, 2, 1, F, I, C Psychiatry Surgery Medicine Pediatrics Ob-Gyn Neurology Radiology Ophthalmology P, F, I, C Anesthesiology Preventive Medicine

Advancement and Graduation

At the end of each academic year the Advancement Committee convenes to review the records of all students in each class. The estimate of a student's standing is based on academic achievement, his moral and ethical traits, and general evaluation of his fitness for a career in medicine. The committee recommends appropriate action to the Faculty Board.

1. All students will be required to take the comprehensive National Board Examinations, Parts I and II, and they will be expected to pass the examinations to be advanced from the second to the third year or to graduate, respectively.

2. Students in all courses in which National Board Examinations are given will

receive provisional grades of "3", "2", "1", Condition (C), or Failure (F). Only those students who have "3", "2", or "1" on the first year courses and no "F's" in the second year courses will be eligible to take the National Board Examination, Part I. Only those students who have passed Part I, receive "3", "2", or "1" in the third year courses and no "F's" in the fourth year courses will be eligible to take the National Board Examination, Part II.

3. Students with "C's" in the second and fourth year courses may, at the discretion of the department head, remove the "C" by re-examination or by passing the National Board Examination in the subject in which they are de-

ficient.

- 4. Students with a "C" in any first or third year course must remove the "C" by re-examination before being eligible for promotion to the second or fourth vear.
- 5. Final grades will be assigned in those courses for which National Board Examinations are given only when the National Board Examinations are passed and will be 3, 2, 1.
- 6. Students who fail the National Board Examinations by National Board standards will receive a "C" in those subjects in which the score is lower than 75.
- 7. A rating of "C" obtained as a result of failing the National Board Examinations must be removed prior to advancement from one year to the next or graduation by re-examination in the conditioned subject.
 - 8. No student will be advanced on probation.
- 9. Students who fail re-examinations will be given an "F" and any student receiving more than one "F" in a major course in any one year will be dismissed from the school.

Students with one failure or one failure plus one or more conditions, at the discretion of the Advancement Committee, may be allowed to remove the "F" by repetition of the course, the semester, the entire year at Maryland or the course at any school satisfactory to the department head, or may be dismissed.

Students who repeat a year and who do not show significant improvement in all courses may, at the discretion of the Advancement Committee, be dismissed.

- 10. When circumstances beyond the student's control make it impossible for him to complete a course at the usual time, he will be given an Incomplete (I) until such time as he has completed the course. An "I" is in no way prejudicial to the final rating or grade of the student in the course, but must be removed prior to promotion to the next year.
- 11. The faculty reserves the right to determine if a student may withdraw, repeat, advance, or graduate on academic or moral and personal grounds, including traits of character.
- 12. All discretionary actions of the Advancement Committee are subject to ratification by the Faculty Board and must be presented to them at their next meeting.

Certification for State Board Examinations

Students at the end of their second and fourth years will be certified to the State Board of Examiners if they have successfully completed the requirements for promotion to the third year or for graduation.

Attendance at Graduation

All students are required to attend graduation. Permission to receive the degree in absentia must be obtained in advance from the Dean.



JOHN H. MOXLEY, III, M.D., DEAN

Additional Educational Programs

Baccalaureate Degree

Selected students entering the School of Medicine from colleges which usually grant a baccalaureate degree after the successful completion of the first year of medicine, are responsible for: a) providing a certificate from his college or university that he is eligible for this degree, and b) meeting all requirements of the School of Medicine for advancement to the second year.

Graduate Program

Graduate courses and research opportunities leading to advanced degrees are available in most of the basic science departments of the School of Medicine. Students pursuing graduate work must register in the Graduate School of the University of Maryland and meet the same requirements as other graduate students. Detailed information concerning fees, scholarships, and other material of general nature, may be found in the University publication titled An Adventure in Learning. This may be obtained from the Office of University Relations, North Administration Building, University of Maryland, College Park, Maryland.

Combined Doctor of Philosophy—Doctor of Medicine Program

Properly qualified medical students may elect to enter the combined educational program leading to Doctor of Medicine and a graduate degree. Such students may arrange a leave of absence of up to three years at the end of their second or third year in medical school to become candidates for either M.S. or Ph.D. in one of the basic medical sciences. Before entering the combined program, students must meet the requirements for admission to the Graduate School and be acceptable to the department of their choice as a candidate for an advanced degree.

Internships and Residencies

The University of Maryland Hospital offers the following graduate specialty training programs for interns and residents. These programs are approved by the Council on Medical Education and Hospitals of the American Medical Association.

The Hospital participates in the National Intern Matching Program to fill its 35 approved intern positions. The program includes rotating internships and straight internships in medicine, surgery, pediatrics, and pathology.

Approved residency programs are offered in the following specialty areas:

Department of Medicine: Internal Medicine, Dermatology, Family Practice.

Department of Surgery: General Surgery, Neurological Surgery, Orthopedic

Surgery, Thoracic Surgery, Otolaryngology, Urology Department of Pediatrics: Pediatrics, Pediatric Allergy Department of Psychiatry: Psychiatry, Child Psychiatry

Department of Anesthesiology: Anesthesiology

Department of Obstetrics-Gynecology: Obstetrics and Gynecology

Department of Pathology: Pathology Department of Radiology: Radiology Department of Neurology: Neurology

Department of Preventive Medicine: Physical Medicine and Rehabilita-

Department of Ophthalmology: Ophthalmology

In total, approximately 225 resident positions are offered.

Appointments to intern and resident positions are made by the Director of the Hospital upon the recommendations of the House Staff Committee of the Medical Board or, in the case of residents, upon the recommendations of the appropriate Clinical Department Head. Correspondence and applications should be addressed to:

THE DIRECTOR University of Maryland Hospital Redwood and Greene Streets Baltimore, Maryland 21201

Additional Education Programs

Research training in international health is accomplished through the mechanism of a Research Associate program under the Institute of International Medicine. This program provides for post-doctoral training in research on a broad spectrum of health problems of developing nations.

Tuition, Fees and Registration

Current Fees

Application Fee\$	7.50
Matriculation Fee (New Students)	10.00
	750.00
Tuition—Non-Residents	150.00
Laboratory Fee	25.00
Student Activities Fee	23.50
Student Health Fee	10.00
*Student Union Fee	30.00
**Special Fee	25.00
National Board Examination Fee	
Second year students	10.00
Fourth year students	15.00
***Hospital Insurance (Blue Cross)	
Individual Plan	33.84
Family Plan	117.12

The application fee should be submitted with the formal application to medical school. A deposit on tuition of \$50 is required of all applicants before the expiration date specified in the offer of acceptance. The deposit on tuition will be credited against first semester charges. In the event of withdrawal before registration, the advanced deposit will be returned on request, if requested before March 1.

Registration

For the fall semester, all students, after proper certification, are requested to complete a set of registration cards to be obtained from the Office of the Assistant Dean of Student Affairs. All students are expected to complete their registration, including the payment of bills on the registration days. Those who do not complete their registration on the prescribed days will be charged a fee of \$20.00.

*The Student Union Fee is payable by all students enrolled in the Professional Schools on the Baltimore Campus and is used to pay interest on and amortize the cost of construction of the Union Building.

**The Special Fee is payable by all full-time students enrolled in the Professional Schools on the Baltimore Campus and is used to finance equipment for the Union

Building.

***Membership of the student in Blue Cross or any other acceptable hospital insurance is required. Each student must produce certified proof of such membership at the time of registration. Rates are subject to change.

One-half of the tuition fee and all of the following—the laboratory fee, the student health fee, the student union fee, the National Board Examination fee, the special fee, and the student activities fee are payable on the date specified for registration for the first semester. Blue Cross Hospitalization for six months in advance is paid at the beginning of each semester.

The remainder of the tuition fee shall be paid on the date designated for the payment of fees for the second semester. Fourth year students shall pay the

graduation fee, in addition, at this time.

Any enrolled student may request at registration the postponement of payment of one half his tuition charges (but not fees) for 30 days. This service is interest free and requires only the student's promise to pay by that date.

Non-payment of Fees

If semester fees are not paid in full on the specified registration dates, a penalty of \$20.00 will be added.

If a satisfactory settlement or an agreement for settlement is not made with the business office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

Re-examination Fee.

A student who is eligible for re-examinations must secure a bill in the amount of \$5.00 from the Registrar's Office, make payment to the Cashier for each subject in which he is to be examined, and present the receipt to the faculty member giving the examination before he will be permitted to take the examination.

Student Activities Fund

This fund supports all student activities and is budgeted by the Student Council in accordance with its own by-laws. All expenditures from this fund must be approved by the Student Council. The fund supports the student recreational and social program, representation at national conventions for certain student organizations, the cost of registration in the National Internship Matching Program as well as other activities. A portion of the fund is allocated to the year-book and provides each medical student with a copy of this publication. On registration all students are given a copy of *The Student Handbook* containing The Honor Code and The By-Laws of the Honor Council together with the By-Laws of the Student Council.

Withdrawals and Refunds

Students desiring to leave the School of Medicine at any time during the academic year are required to file with the Dean a letter of resignation. The student must satisfy the authorities that he has no outstanding obligations to the school and must return his Student Identity Card and Matriculation Card.

If these procedures are not completed, the student will not be entitled to honorable dismissal nor to refund of fees.

Students under 21 years of age must supplement the procedures previously described with the written consent of their parents or guardians.

ACADEMIC STANDING ON WITHDRAWAL

Students who voluntarily withdraw during an academic semester will be given no credit.

Students are not permitted to resort to withdrawal in order to preclude current or impending failures. Their standing on withdrawal will be recorded in the Registrar's Office.

Students who withdraw from the School of Medicine, and later desire readmission, must apply to the Committee on Admissions, unless other arrangements have been consumated with the Dean's written consent.

REFUNDS ON WITHDRAWAL

Students who are eligible to honorable dismissal will receive a refund of current charges, after the matriculation fee has been deducted, according to the following schedule:

PERIODS ELAPSED AFTER INSTRUCTION BEGINS

	PERCENTAGE REFUNDABLE
Two weeks or less	. 60% . 40% . 20%
After five weeks	. 0

LEAVE OF ABSENCE

Students who are in good standing may be granted one year's leave of absence on request to the Dean. Longer leaves can be arranged only under special circumstances except those students in the combined M.D.-Ph.D. program.

Required Equipment

At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments similar to the one on display in the bookstore. In addition, they must provide themselves with microscopes equipped with a mechanical stage and a substage lamp. Microscopes must meet the standards described below.

A standard monocular or binocular microscope such as made by Bausch & Lomb, Leitz, Zeiss, Reichert, or American Optical Company fitted with the following attachments, meets the requirements:

16 mm., 10x, 0.25 N.A.—4.9 mm. working distance.

4 mm., 43x, 0.65 N.A.—0.6 mm. working distance.

1.8 mm., 97x, oil immersion, 1.25 N.A.—0.13 mm. working distance.

Oculars: 10x and 5x. Huygenian eyepieces.

A scanning objective is optional, but often proves to be of great value.

The microscope should also be equipped with a wide aperture stage with detachable ungraduated mechanical stage, a substage condenser, variable focusing type 1.25 N.A. with iris diaphragm (a rack and pinion focusing device is preferred), and a mirror which is plane on one side, and concave on the other. A carrying case is recommended.

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some of the older instruments are in poor optical or mechanical condition, and, in addition, some are equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage.

All microscopes will be checked during the first scheduled laboratory in

Microscopic Anatomy.

Other instruments and equipment may be needed. The student will be informed of these needs by the department involved at an appropriate time.

Students in the second year class are also expected to provide themselves with short white lapel coats. Three button, 8-ounce sanforized duck coats are satisfactory.

Prizes, Scholarships, Fellowships, Loan Funds, and Student Employment

Prizes

THE FACULTY PRIZE

The Faculty will award the Faculty Gold Medal and Certificate and five or more Certificates of Honor to those highest ranking candidates for graduation who, during the four academic years, have exhibited outstanding qualifications for the practice of medicine.

THE BALDER SCHOLARSHIP AWARD

Each year a prize of \$500 will be awarded for outstanding academic achievement to a graduating senior.

THE DR. J. EDMUND BRADLEY PRIZE

Each year a prize of \$100 is awarded to a graduating senior who has performed with special excellence in Pediatrics. This award is given in honor of Dr. Bradley, Professor Emeritus of Pediatrics.

THE DR. A. BRADLEY GAITHER MEMORIAL PRIZE

A prize of \$25, given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, is awarded to the student in the fourth year class doing the best work in Genito-Urinary Surgery.

THE DR. LEONARD M. HUMMEL MEMORIAL AWARD

A gold medal and Certificate of Proficiency will be awarded annually as a memorial to the late Dr. Leonard M. Hummel to the graduate selected by the Executive Committee of the Faculty who has manifested outstanding qualifications in Internal Medicine.

THE DR. HARRY M. ROBINSON, SR., PRIZE

A prize of \$25 is given each year in honor of Dr. Harry M. Robinson, Sr., late Professor Emeritus of Dermatology, to the member of the fourth year class selected by the Faculty who has done outstanding work in Dermatology.

THE DR. JACOB E. FINESINGER PRIZE

A prize of \$100 is given each year in honor of Dr. Jacob E. Finesinger, late Professor and Chairman of the Department of Psychiatry, to the member of the fourth year class selected by the Faculty who has done outstanding work in Psychiatry.

THE DR. MILTON S. SACKS MEMORIAL AWARD

A prize of \$100 is given each year in honor of Dr. Milton S. Sacks, late Professor of Medicine and Hematology, to the member of the fourth year class selected by the Faculty who has performed with special excellence in Medicine and Hematology.

THE DR. WAYNE W. BABCOCK PRIZE

Each year a prize of \$50 will be awarded to a graduating senior for outstanding work in Surgery as a memorial to Dr. Wayne W. Babcock.

THE CLINICAL PATHOLOGICAL CONFERENCE AWARD

The junior or senior student who has performed most ably throughout the academic year in the diagnosis of clinical pathological conference cases will receive an award of \$50 and will have his name appropriately inscribed on a plaque in Gordon Wilson Hall.

Financial Aid

The supervision of financial aid for medical students rests with the Assistant Dean of Student Affairs, 103 Davidge Hall. In general, all University scholarships and most Federal scholarships and loans are awarded on an annual basis in July prior to the academic year. Relevant applications must be complete by June 1. A far smaller number of Federal scholarships, Federal loans, and University loans are awarded in October and in January.

Scholarships

ALL CLASSES

FEDERAL HEALTH PROFESSIONS SCHOLARSHIP PROGRAM

Members of the class may apply for Federal Scholarships awarded on the basis of need alone to "students of exceptional financial need who need such assistance to pursue a course of study." Those students eligible for such scholarships may anticipate a total educational indebtedness at the end of Medical School not substantially in excess of \$5000. Such scholarships, which are renewable after annual reassessment of both needs and resources, may be as high as \$2500 per year. No Federal Scholarship will be awarded to students who do not also simultaneously request and receive a Federal Health Professions Loan.

STATE SCHOLARSHIPS FOR GENERAL PRACTICE

The State Scholarship Board, 2100 Guilford Avenue, Baltimore, Maryland 21218, offers 10 scholarships each year in the amount of \$1500 per year. Such awards, which are renewable annually, may be made to needy students anticipating or having a bachelor's degree in the year of the award. The students must have been residents of Maryland for five years prior to the time of application. The awards, based on need and academic merit, will be given to students only if they sign a bond to "engage in the general practice of medicine for no less than three years in an area of need in the State of Maryland so designated by the State Health Department. . . ." Applications for these awards should be made directly to the State Scholarship Board; they must be submitted by April 1 prior to the relevant academic year.

AIR FORCE RESERVE-REGULAR OFFICER PROGRAM

Students who will be 26 years old or less when they enter Medical School and have or are capable of obtaining an Air Force Commission are eligible for a special program. Students selected in a nationwide competition will receive full pay and allowances as well as reimbursement for tuition, fees, equipment and books throughout their Medical School tenure. In repayment they must remain in the Air Force for two or three years for each year they receive such financial support. Detailed information shall be obtained as soon after acceptance as possible from USAFMPC (AF MSMB-4) Randolph AFB, Texas 78148.

FOR FRESHMEN ONLY

AVALON SCHOLARSHIP

An Avalon Scholarship, with a stipend of \$650, will be awarded to the member of the incoming freshman class who shows the greatest promise for a successful career in medicine. All accepted students are eligible whether resident or non-resident. Formal application is not necessary in that all admitted students are automatically considered. At the end of each academic year, the recipient's record will be reviewed by the Committee on Scholarships and Loans and the scholarship extended for another year if the record warrants. Any

recipient who does not stand at least in the upper third of the class may not be considered eligible for renewal. If an applicant is awarded an Avalon Scholarship, it is understood that during its tenure he will accept no outside remunerative employment during the school year without approval of the Office of the Assistant Dean of Student Affairs.

WARFIELD FRESHMAN MERIT SCHOLARSHIP

Five scholarships, each with a stipend of \$650, are available to members of the first year class who are residents of Maryland and who have demonstrated outstanding potentiality for the study of medicine. Selection will be based on the credentials submitted in support of the applicant's request for admission. Formal application is not necessary in that all admitted students who are residents are automatically considered. The committee reserves the right to withhold scholarship awards, if, in its opinion, there are no qualified applicants in any particular year. These scholarships are available to first year students only, and therefore are not renewable. Recipients may apply in later years for Medical School Scholarships open to upperclassmen.

FOR UPPERCLASSMEN ONLY

UNIVERSITY SCHOLARSHIPS

Over 50 University Scholarships are available to members of the three upperclasses with stipends ranging from \$250-\$1000 a year, with an average of about \$500. Almost half of these scholarships are derived from the kind bequest of the estate of Dr. Michael Vinceguerra. All scholarships are awarded for one academic year and will be renewed only on application. Awards are made on a competitive basis with both academic proficiency and need as a major consideration. Students who do not qualify for scholarships may apply for student loans.

Loans

FEDERAL HEALTH PROFESSIONS STUDENT LOAN PROGRAM

Significant financial assistance is available to all students in need from the Federal Health Professions Student Loan Program. Loans up to \$2500 per year are repayable over a 10-year period, beginning one or more years after graduation, subsequent to completion of internship and residency training. No interest is charged on the loans until the beginning of the repayment period, when a 3% interest will be charged.

UNIVERSITY LOANS

Loans from a number of funds under direct Medical School control are available to medical students who are in financial need. Application may be made at any time, although most applications are made and considered shortly before the beginning of the second semester. Except in unusual circumstances, loans from Medical School funds are limited to \$400 a year. Such loans are awarded on the basis of need. Most loans are to be repaid in five equal installments with the first payment on the loan being due at the end of the fifth year following graduation. At that time simple interest of 3% begins to accrue.

AMERICAN MEDICAL ASSOCIATION LOANS

The American Medical Association will guarantee loans up to \$1500 per year to medical students with 6.5% interest. Repayment must begin on the first day of the fifth month after completing training including internship and residency. Thereafter there will be a 7% interest charged on the unpaid balance.

STUDENT COUNCIL EMERGENCY LOAN FUND

The Student Council of the Medical School has established an Emergency Loan Fund for all medical students. When funds are available, loans are without interest, are limited to \$400, and must be repaid within 120 days.

Fellowships

STUDENT RESEARCH FELLOWSHIPS

Over 100 Student Summer Research Fellowships are available annually upon application to the Committee on Scholarships and Loans or to the individual departments of the School of Medicine. A very limited number of student research fellowships are awarded for work during the academic year by selected departments.

THE DR. JOHN B. WEAVER FELLOWSHIPS

The Will of Dr. John B. Weaver, who died in 1929, authorized the Trustees of the Endowment Fund of the University of Maryland to establish fellowships in his name. Two such fellowships, each in the amount of \$1500, will be awarded annually to applicants who as physicians are full time fellows in research or teaching in the University of Maryland School of Medicine.

Student Employment

Students engaging in outside work during the academic year must report such activities to the Assistant Dean of Student Affairs at the beginning of the school year or at anytime during the school year that such work is undertaken. Students of any class designated by an appropriate Advancement Committee to be in academic difficulty will not engage in part time employment without the approval of the Assistant Dean of Student Affairs. Students considering outside employment in a clinical setting are encouraged to review carefully the opinion of the Law Department of the American Medical Association entitled "Employment of Medical Students as Externs."

General Information

Organizations

STUDENT ACTIVITIES COMMITTEE

This Committee serves to coordinate and integrate the activities of all student groups and to act as liaison between the student body, the administration,

and the faculty. Members are: President of the Student Council, Class Presidents, Chairman of the Honor Council, President of the Student American Medical Association, President of the Interfraternity Council, President of Alpha Omega Alpha, President of the Women's Auxiliary to the Student American Medical Association, Editor of the Yearbook, Editor of the Asclepian, Chairman of the Student Health Organization, Chairwoman of the Omega Mu Sorority, Treasurer of the Medical Student Council, and Class Presidents of the Junior and Senior Department of Physical Therapy. The Assistant Deans and those faculty members appointed by the Faculty Board are also members.

A subcommittee, Student-Faculty Council meets periodically to discuss topics of special interest to the medical community.

STUDENT COUNCIL

Each year the student body elects the Student Council which formulates and directs policies and activities of the student body and makes appropriate recommendations to the proper authorities. It is also responsible for disbursement of student activities fund, arranges the social program for the year, and maintains liaison with the Student Union Board.

HONOR COUNCIL

The Honor Council, elected by the Student Body, is responsible for the interpretation and execution of the Honor Code. Acceptance of the provisions and obligations of this Code is required of all students entering the Medical School.

BALTIMORE STUDENT UNION BOARD

The Board is a representative body of those students who live in the Student Union. The Medical Student Council maintains liaison with the Board.

STUDENT AMERICAN MEDICAL ASSOCIATION

This organization is designed to prepare the future physician for full participation in the field of Medicine. Furthermore, the active chapter is responsible for student liaison with high school and college groups, for publication of the bimonthly Asclepian, and for other important and educational and service activities of value to individual students. The Asclepian covers Medical School news including the latest developments in areas of concern to medical students and faculty.

WOMEN'S AUXILIARY, STUDENT AMERICAN MEDICAL ASSOCIATION

The Women's Auxiliary helps wives and medical students prepare themselves for their future responsibilities as wives of physicians. It has promoted closer association among the student wives, both with each other and with wives of faculty members and participating physicians. The Auxiliary actively participates in many functions for the betterment of the Medical School, including supervision of the used microscope and book sale.

OMEGA MU

The women students in School of Medicine recently organized their own sorority. Faculty and students are provided a social atmosphere to exchange



DAVIDGE HALL

ideas of mutual interest. Functions include guest dinner speakers, special program for incoming freshmen and lectures for entire student body.

STUDENT HEALTH ORGANIZATION

Baltimore Chapter was formed by medical, nursing, dental, and social work students at the University of Maryland with the basic tenet that health profession students have an objective to work together within the community. Community health projects are undertaken.

THE YEARBOOK

The Yearbook, Terra Mariae Medicus, which covers all the facets of student activities, is compiled by the students. Originating as Bones, Molars, and Briefs, the Yearbook has provided a continuous record of graduating classes as far back as 1896. It is the outstanding record of student life. The cost of the Yearbook is included in the Student Activities Fee; hence, all medical students are entitled to receive a copy annually without further charge.

STUDENT COUNCIL INTRAMURAL ATHLETIC PROGRAM

Each year the Student Council sponsors an intramural athletic program which consists of competition, generally interclass, in touch football, basketball, softball, and tennis. Furthermore, a faculty-student softball game is a feature of the annual Medical Student Council Spring Picnic.

THE INTERFRATERNITY COUNCIL

The purpose of the Council is to further the interests and improve the coordination and cooperation of the member groups. Each fraternity is represented by its President and Social Chairman. One of these representatives is chosen President for the school year on a rotating basis.

The Interfraternity Council organizes the Freshmen Orientation Program.

Alpha Omega Alpha: National Honorary Medical Society

The Beta chapter of Maryland was established at the University of Maryland in 1949. Medical students possessing outstanding qualities of moral integrity, scholarship, and leadership are elected to membership in their third or fourth years. The Society sponsors an annual lectureship, a forum for the presentation of medical student research, and chapter meetings on topics of social, educational, and philosophical interest to medical students and faculty.

Student Health Service

The Baltimore Campus of the University maintains a health service facility on the first floor of Howard Hall (660 W. Redwood St.) Office hours are from 7:30 a.m. until 5:30 p.m., exclusive of Saturdays, Sundays and holidays. Dur-

ing emergencies or on weekends, holidays and at night, health service physicians may be called or students may report to the Accident Room, if absolutely necessary.

At the beginning of the entering year, each student will be given a physical examination. The passing of this examination is a requirement for the final acceptance of any student. Consultations and operations are arranged through the health service when necessary. X-rays and laboratory studies, unless specifically ordered by the Student Health Service, will be made at the student's expense. All students are required to carry hospitalization insurance equivalent to Blue Cross and it is strongly recommended that all students be covered by Blue Shield or its equivalent to cover physicians' and surgeons' fees.

It is not the function of the Health Service to treat chronic conditions contracted by students before admission or to extend treatment for acute conditions arising in the period between academic years, unless the Health Service recommends it. Prospective students are advised to have any known physical defects corrected before entering school in order to prevent loss of time which later correction might incur. Insofar as possible students will be given necessary medications for treatment of their illnesses if such medications are available. Those students requiring dental care through the year and who do not have their own dentist available, will, upon request, be referred to the dental clinic for treatment. At this time there is no infirmary connected with the Student Health Service. Students requiring such treatment will either have to be hospitalized or sent to their homes.

Housing

The Baltimore Union Building for students of the Professional Schools is located adjacent to the Professional Schools at 621 W. Lombard Street. Accommodations for 195 men are provided in a five-story, semi-air conditioned building which also contains a cafeteria, fountain lounge, meeting rooms, machine laundry facilities, billiard-ping-pong room, bookstore and barber shop; there are lounges on each floor.

All rooms are double occupancy. No single rooms are available. The rental agreement is made for the rooms only; meals are served cafeteria style on a cash basis. The contract for the accommodations covers the academic year.

The rates are:

\$180.00 per semester per person

\$ 80.00 per eight week summer session per person.

The rate shown above is per person and includes the following: Room furnishings, bed and cover, mattress, chest of drawers, closet, bookshelves, desk, medicine cabinet, desk chair, and desk lamp. Maid service will include cleaning of room twice per week and replacement of change of linen once each week. Telephone service is available through the Chesapeake & Potomac Telephone Company. Cost of the telephone is not included in the room rate. Information can be obtained from the Director's Office. Mail service is also provided. Towels and linens must be rented through the designated Commercial Rental Service. Residents may either provide their own pillow and blankets or rent them from the linen service. A small amount of luggage space is available. Storage of anything other than luggage will not be available.

HOW TO APPLY FOR A ROOM ASSIGNMENT

Write: DIRECTOR'S OFFICE

The Baltimore Union Building 621 West Lombard Street Baltimore, Maryland 21201

There are no University housing facilities in Baltimore available for women.

Diplomas

Members of the Senior Class must fill out an "Application for Diploma Form."

Commencement

All graduating seniors are required to attend the Pre-commencement and Commencement ceremonies unless excused in writing by the Dean.

Buildings and Facilities

Davidge Hall

This hall, at 522 West Lombard Street, is named after the first dean, Dr. John Beale Davidge, and was the first building of the medical school to be erected. It was completed in 1812 and is a replica of the Pantheon in Rome. It is the oldest structure in this country from which the degree of Doctor of Medicine has been granted annually since its erection. It is located at the N.E. corner of Lombard and Greene Streets and houses the offices of the Dean, and his staff, the Committee on Admissions, the Postgraduate Committee, Medical Alumni Office, in addition to Chemical and Anatomical Halls.

Administration Building

520 West Lombard Street contains facilities of the Department of Physical Therapy.

Bressler Research Laboratory

The Frank C. Bressler Research Laboratory at 29 S. Greene Street, a memorial

to a generous alumnus, was completed in 1940.

It houses the Department of Anatomy in addition to the research facilities of the departments of Medicine and Surgery, animal quarters, the Bressler Memorial Room, and the Baltimore Offices of the Board of Regents and the President of the University.

Gray Laboratory

This building houses research laboratories of the various Clinical Departments and offices of the Department of Physical Therapy.

Howard Hall

660 West Redwood Street houses the Departments of Biochemistry, Biophysics, Cell Biology and Pharmacology, Microbiology, Pathology, and Physiology in addition to the Health Sciences Computer Center and the Central Animal Quarters of the School of Medicine. In this building also are located the Baltimore Office of the Registrar and Cashier, the Office of Admissions, and various other administrative offices of the Schools on the Baltimore Campus.

Medical Technology Building

31 South Greene Street houses some of the offices and laboratories of the Department of Pathology, offices of the Department of Preventive Medicine, and research laboratories of the Department of Pediatrics.





BRESSLER RESEARCH LABORATORY (LEFT)



JOHN EAGER HOWARD HALL

University of Maryland Hospital

The University of Maryland Hospital is part of the University of Maryland. It is one of the oldest institutions for the care of the sick in the State of Maryland. It was opened in September 1823, under the name of the Baltimore Infirmary and at that time consisted of only four wards, one of which was reserved for patients with diseases of the eye.

In 1933-1934 the present Hospital was erected with a capacity of 435 beds and 65 bassinets. In 1952-1953 a modern Psychiatric Institute Building was erected and a junctional wing was added to the general hospital. New additions have increased the hospital bed capacity to 648 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, psychiatry, and the various medical and surgical specialties. All hospital accommodations, whether private, semiprivate, ward, or specialized, are available to the teaching programs.

The hospital buildings are situated opposite the Medical School buildings. The students, therefore, are in close proximity to the clinical facilities of the Hospital. The hospital is the major clinical teaching facility of the Medical School.

EMERGENCY SERVICE

The Emergency Service of the hospital receives and treats a large number of emergency cases because of its proximity to the largest manufacturing and shipping districts of the city. During the past fiscal year a total of approximately 48,000 patients were treated in the Emergency Room.

OUT PATIENT DEPARTMENT

The Out Patient Department is in the old University Hospital. It provides space and facilities for more than fifty clinics, the departments of X-ray, a pharmacy, laboratory, and other ancillary services. Admission policies are predicated upon the teaching requirements of the School of Medicine and the ward services of the Hospital.

Visits to the various clinics of the Out Patient Department during the last fiscal year totaled approximately 135,000.

Health Sciences Library

The Schools of Medicine, Dentistry, Pharmacy, Nursing, and Social Work are served by the Health Sciences Library in a modern, four-story library building completed in 1960. The oldest part of the library collection dates back to 1813 when the University of Maryland purchased the books of Dr. John Crawford to form a medical library. The present library contains more than 120,500 bound volumes and regularly receives over 2,700 scientific periodicals.

The Library of the Medical and Chirurgical Faculty of Maryland and the Welch Medical Library of the Johns Hopkins University are open to students of the School of Medicine without charge. Other libraries of Baltimore are the

Peabody Library and the Enoch Pratt Free Library.



HEALTH SCIENCES LIBRARY



MEDICAL TECHNOLOGY BUILDING

Library Staff

- ROVELSTAD, HOWARD, Director of Libraries and Professor of Library Science; A.B., University of Illinois, 1936; M.A., 1937; B.S.L.S., Columbia University, 1940.
- *ROBINSON, IDA MARIAN, Librarian Emeritus; A.B., Cornell University, 1924; B.S.L.S., Columbia University School of Library Service, 1944.
- *MOORE, HILDA E., Librarian and Associate Professor of Library Science; A.B., Randolph-Macon Woman's College, 1936; A.B.L.S., Emory University Library School, 1937.
- *COYLE, EDITH M., Assistant Librarian for Technical Services; A.B., University of North Carolina, 1937; A.B.L.S., University of North Carolina School of Library Science, 1939; M.A., The Johns Hopkins University, 1945.
- *MITTEN, ELEANOR M., Assistant Librarian for Readers' Services; B.S., Cornell University, 1942; B.S.L.S., Syracuse University School of Library Science, 1949.
- BROOKMAN, PATRICIA C., Acquisitions Assistant
- CANNON, CAROLE N., Circulation Assistant
- CHAFFIN, REGINA F., Cataloging Assistant
- DEFAY, HELEN D., Acquisitions Assistant
- *DE MANGE, KATHYRN K., Acquisitions Librarian; B.A., Fresno State College, 1954; M.L.S., University of Maryland, 1967.
- DVORKIN, BETTIFAE E., Acquisitions Assistant; A.A., Community College of Baltimore, 1966.
- GRABER, LYNNE B., Circulation-Reserve Book Room Assistant; B.A., University of Maryland, 1968.
- HANNA, RUTH E., Reference Librarian; A.B., Hanover College, 1939; M.S.L.S., Catholic University of America, 1961.
- HLAVIN, LORRAINE S., Serials Assistant
- HOBGOOD, ELLA M., Reference Assistant
- HOSAIN, PARVATHI, Cataloger; B.Sc., Andhra University (India), 1948; M.Sc., Lucknow University (India), 1953; A.I.N.P., Saha Institute of Nuclear Physics, University of Calcutta (India), 1955; Dip. Lib., University of Calcutta (India), 1959.
- JONES, MARGARET M., Head, Cataloging Department; A.B., Shaw University, 1947; M.S.L.S., Atlanta University School of Library Service, 1951.
- KYLER, CECILIA J., Serials Assistant
- LEE, CLARICE F., Head, Circulation Department; A.B., Morgan State College, 1950.
- LISTFELDT, HANS-GUENTHER R., Head, Serials Department; B.S., Loyola College, 1956; M.S.L.S., Catholic University of America, 1961; Ph.L., 1967.
- LISTFELDT, Mary S., Head, Reference Department; B.A., New York State College for Teachers (Albany), 1944; B.L.S., University of Wisconsin Library School, 1947.
- LOTZ, F. GWENDOLYN, Circulation Assistant; R.N. (Canada), Hamilton (Ontario) General Hospital, 1932.
- O'BRIEN, MARY W., Cataloging Assistant
- PALMER, ELIZABETH, Assistant to the Librarian
- ROMAN, MARGARET M., Reference Assistant
- SNOWDEN, CLAUDINE N., Reference Assistant; B.A., North Carolina College, 1944.
- STERLING, ELWOOD, Serials Assistant
- VARGAS, BEATRIZ, Acquisitions Assistant
- WILKINS, HENRY, General Library Assistant
- WISOWATY. EVELYN C., Circulation Assistant; B.A., Westhampton College, University of Richmond, 1942.

^{*}Certified Medical Librarian.

Affiliated Institutions

Mercy Hospital

Mercy Hospital traces its history to the foundation of the Washington School of Medicine in 1824. In 1872 some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert Streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874 the Sisters of Mercy, upon the invitation of Washington School of Medicine, assumed responsibility for the Nursing Services of the hospital. In 1876, Washington University merged with the College of Physicians and Surgeons.

In 1888 the Sisters of Mercy, with the assistance of the Faculty of the College of Physicians and Surgeons, began construction of a new hospital adjacent to the earlier buildings. In 1909, the name of the institution was changed to

"Mercy Hospital."

Many additions have been made to the physical plant over the years. The present twenty-one story, modern hospital building opened in 1963. A new gastroenterological research laboratory was completed in 1965. A center for gastrointestinal endoscopy has also been established.

The hospital is very active in the teaching program of the medical school. Faculty members serve as fulltime heads of medicine, surgery, pediatrics and obstetrics/gynecology. Medical students rotate through the Mercy Hospital

clinical services during the second, third and fourth years.

During the year ending December 31, 1968, there were 10,794 general admissions, 21,807 dispensary visits, 1,530 obstetrical deliveries, and 21,881

emergency visits in the Accident Department.

The bed capacity is 334 plus 36 bassinets. All hospital beds are available for teaching purposes, 71 of them specifically as service beds. A School of Nursing, a School of Medical Technology, and a School of X-Ray Technology are conducted in conjunction with the hospital.

The James Lawrence Kernan Hospital and Industrial School of Maryland for Crippled Children

This institution is situated on an estate of 75 acres near Dickeyville. The site is within the northwestern city limits and of easy access to the city proper.

Its facilities are used to teach pediatric orthopedics to medical students and house officers.

A hospital unit, complete in every respect, offers all modern facilities for the care of an orthopedic condition in children and adults.



MERCY HOSPITAL

The hospital is equipped with 120 beds—endowed, and city and state supported. The orthopedic dispensary at the University Hospital is maintained in closest affiliation and cares for the cases discharged from the Kernan Hospital. The Physical Therapy Department is very well equipped with modern apparatus and trained personnel. Occupational therapy has been fully established and developed under trained technicians.

Baltimore City Hospitals

This is the only municipal hospital in Baltimore and has a bed capacity of 1,726. The departments of the hospital are: Anesthesiology, Chronic and Community Medicine, Dentistry, Medicine, Obstetrics and Gynecology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Psychiatry, Radiology, Surgery, and Tuberculosis.

The acute hospital has 425 beds and is devoted to the usual medical activities. The chronic hospitals, where physical rehabilitation is emphasized on all patients, are devoted to chronic and degenerative diseases, as well as tuberculosis. The Baltimore City Hospitals is also a major center for research in Gerontology and Oncology.

There is a strong affiliation between the School of Medicine and the Departments of Obstetrics and Gynecology, Anesthesiology, Radiology, Medicine, Surgery, and Pediatrics. The heads of these departments as well as the clinical instructors are members of the University of Maryland School of Medicine faculty. They participate not only in teaching medical students, but are active in the planned programs for house staff education. The practical teaching of Obstetrics is carried out in this institution, while partial instruction in several areas of Medicine, Anesthesiology, Surgery, and Pediatrics are under the directorship of the respective clinical department heads.

Maryland General Hospital

The Maryland General Hospital began humbly about 1883 at a location on Linden Avenue, north of Madison Street, with a capacity of 50 beds. Five years later, a college building (The Baltimore Medical College), was erected on Madison Street and a maternity service known as The Maryland-Lying-In Hospital opened on Linden Avenue contiguous to the main building. Three years later the Dental Building followed.

Early in 1911 came a radical change. The Baltimore Medical College, including its College of Dentistry, was consolidated with the University of Maryland. This left portions of two buildings tenantless and functionless. Then came three Methodist groups, federating their purses and courage in purchasing and operating a hospital.

Two serves

Two campaigns for funds, two years apart, met a heartening response from people of all faiths. Debts were extinguished and mortgage bonds retired. Property improvements began on a large scale. Both buildings were soundly converted to hospital uses.

In 1921 a successful campaign was completed to construct a modern nurses' home.

In July, 1954, a contract was entered into for the creation of a seven story building—the first phase of the building program—and was dedicated in December 1952.

ber, 1956. The new building made possible the demolition of the old buildings. The second phase of the program was completed in November, 1962.

The present bed complement is 385 plus 40 bassinets. In addition to increasing the bed capacity, construction of modern laboratories, recovery room, surgery, and x-ray departments, the new departments of an intensive care unit, a radioisotope laboratory, and cardio-pulmonary function laboratories were incorporated into this facility.

For the year 1965-1966, there were 13,422 admissions, 8,225 surgical procedures, and 1,931 obstetrical deliveries.

The new seven-story Eye, Ear, Nose and Throat building is now completed and functioning, together with a new Central Supply Room, Pharmacy, Pediatric Department and a twenty-three bed Coronary and Intensive Care Unit; thus increasing our bed capacity to 450 beds. The Out Patient Department can accommodate in excess of 20,000 visits per year.

For the fiscal year ended June 30, 1968, there were 12,029 admissions and

7,288 surgical procedures.

Eye Research Foundation of Bethesda

The Eye Research Foundation is affiliated with the Department of Ophthalmology, and is located at 8710 Old Georgetown Road in Bethesda. Research and clinical facilities are used for research programs.

Historical Sketch

The School of Medicine of the University of Maryland, the fifth medical school to be founded in the United States, filled a great need for such an institution in the Baltimore area. On December 18, 1807, the General Assembly of the State of Maryland passed "An Act for Founding a Medical College in the City or Precincts of Baltimore for the Instruction of Students in the different Branches of Medicine." The philosophy of the founding fathers and the principles upon which the school was established have not changed. This is aptly expressed in the opening paragraphs of the Founding Act: "WHEREAS . . . it appears to the General Assembly that many benefits would accrue, not only to the State of Maryland but to many other parts of the United States, from the establishment of a seminary for the promotion of medical knowledge in the City of Baltimore, therefore, Be It Enacted . . . That a College . . . by the name of The College of Medicine of Maryland, be established . . . upon the following fundamental principles. . . . The said College shall be founded and maintained forever upon a most liberal plan, for the benefit of students of every country and every religious denomination, who shall be freely admitted to equal privileges and advantages of education, and to all the honors of the College, according to their merit, without requiring or enforcing any religious or civil tests."

The direction of the College of Medicine was vested in a Board known as "The Regents of the College" comprising the Board of Medical Examiners, the President, and Professors of the College.

Dr. John Beale Davidge was selected as the first dean of the school. Under his farsighted leadership the original faculty formulated a new concept of medical education: "The science of medicine could not be successfully taught under the usual organization of medical schools; that without the aids of physiology and pathology, either associated with anatomy or as a separate chair of institutes, the philosophy of the body in sickness or in health could not be understood."

The first session of the College was not complete and lectures were delivered in the homes of Dr. Davidge, other members of the faculty, and at the Almshouse. From the beginning the School was fortunate in having patients at the Almshouse for use in bedside teaching.

The first recorded public graduation was in 1810 with five graduates listed, three from Maryland and two from Virginia.

At the end of 1807 there was, in Baltimore, a medical college with officers and faculty but no buildings or money. A lottery was authorized in the amount of \$10,000, which was subsequently increased to \$40,000. The faculty contributed what it could and interested citizens helped to raise funds with which to begin the school and provide for its maintenance.

The location selected for the College of Medicine was the northeast corner of Lombard and Greene Streets on property owned by Col. John Eager Howard of Revolutionary War fame. Mr. R. Cary Long, an eminent architect, drew plans for the beautiful replica of the Pantheon which stands today and houses the two old amphitheatres, the offices of the Dean, the Alumni Association, Postgraduate Committee, and other administrative offices. This building was first occupied late in the year of 1812. It is the oldest building in this country from which the degree of Doctor of Medicine has been granted annually since its erection. In this building one of the first medical school libraries in the United States was founded.

The Faculty and Regents endeavored constantly to improve the curriculum and teaching facilities. New faculty members were secured and new methods were introduced in the school. Dr. John Crawford, one of the new faculty members, vaccinated Baltimoreans against smallpox during 1800, while Dr. Waterhouse was doing the same for citizens of Boston. As early as 1810 he presented evidence that tuberculosis was contagious. His personal library became the nucleus of the present Medical School Library.

In 1812 the General Assembly authorized founding of the additional Schools of Law, Divinity, and Arts and Sciences. The University of Maryland School of Medicine was unique in the history of education, since the medical school preceded the undergraduate and other professional schools.

The Baltimore Infirmary, the forerunner of the University Hospital, was built in 1823. The School was one of the first to have its own hospital for clinical instruction, and it was here that intramural residency for senior students was first established.

There were many "firsts" through the years. The study of human anatomy was recognized as basic for the acquisition of medical knowledge, but dissection

was limited by the difficulty in obtaining bodies. The trustees recommended compulsory dissection as early as 1833, but the faculty did not enforce the recommendation until 1848, the first medical school in the country with such a requirement. Finally, enactment of the Anatomy Law provided unclaimed bodies to the medical schools for dissection (1882). At the College of Medicine of Maryland instruction was given in Dentistry (1837) and in the techniques of ausculation and percussion (1841) for the first time in America. In 1844 Dr. David Stewart, the first professor of pharmacy in the United States, initiated his lectures at the School, and compulsory courses in Experimental Physiology and Microscopy were introduced in 1854. The first independent chairs for teaching Diseases of Women and Children (1867) and Diseases of the Eye and Ear (1873) were established. Systematic clinical instruction in Nervous Diseases was instituted in 1869.

The Faculty and Regents recognized the need for medical education to include areas other than the sciences. In 1891 a rule was adopted which required each student to complete successfully a preliminary examination in English before being admitted.

At the time of the charter the course of instruction was only four months. In 1848 it was increased to four and a half months and attendance at two sessions was required. In 1891 the period of instruction was increased to three years and in 1896 all Doctor of Medicine candidates were required to complete a four year course of instruction.

Graduate programs were offered as early as 1860 and a special ten weeks summer course was given in 1870. These were the initial Postgraduate courses which have continued to the current era.

Honorary degrees have been conferred upon outstanding persons on rare occasions. The honorary M.D. degree conferred upon Dr. Ephraim McDowell by the University of Maryland School of Medicine in 1825 was his only degree. The Marquis de Lafayette was awarded the honorary degree of LL.D. during his visit to America in 1824.

The University of Maryland School of Medicine enjoys a rich heritage bequeathed by two other medical schools and their affiliated hospitals. Mergers with the Baltimore Medical College in 1913 and the College of Physicians and Surgeons in 1915 provided the University of Maryland School of Medicine with greatly expanded faculty and clinical facilities.

The State University was established in 1920 when the professional schools in Baltimore merged with the Maryland State College of Agriculture at College Park, Maryland. The State of Maryland assumed the financial obligation of all of the schools.

Throughout the many years since the Medical School's founding the prime emphasis has been placed on fitting men and women for the practice of medicine. Significant research contributions were made by many graduates although systematic programs of experimentation received greater emphasis in the later years, especially since the erection of the Bressler Research Laboratory in 1939-1940.

Women first entered the Medical School in 1921. There were six women in the 1922 class, two of whom completed the four year course of study. The School was integrated racially almost from the beginning and students of most races have completed the course of study and graduated.

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The Faculty Board of the School of Medicine is the governing and policy body of the School. The Faculty Board is composed of the Heads of all Departments, the Dean, Associate Deans and Assistant Deans, elected representatives from the faculty of each Department, the President and Secretary of the Medical Board of the University of Maryland Hospital, Heads of Divisions, and two alumni members. Faculty Board actions are carried into effect by the Executive Committee which is composed of the Dean, Associate and Assistant Deans, Department Heads, and four elected members of the faculty.

The faculty of the School of Medicine elects members to represent it in the

University Senate.

Faculty

EMERITI

BALLARD, MARGARET B., M.D., Associate in Obstetrics and Gynecology, Emeritus

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ENGNOTH, MILTON L., Instructor in Otolaryngology; B.S., University of Maryland, 1953; M.D., 1957.

ESMOND, WILLIAM C., Assistant Professor in Surgery; B.S., University of Maryland, 1940; M.D., 1951.

FLETCHER, MARGARET M., Assistant Professor in Otolaryngology; B.S., University of Michigan, 1957; M.D., University of Michigan, 1961.

FLOTTE, C. THOMAS, Associate Professor of Surgery; B.S., Franklin and Marshall College, 1943; M.D., Jefferson Medical College, 1946.

GALLEHER, EARL POTTER, Associate Professor of Urology; A.B., Princeton University, 1949; M.D., Johns Hopkins University, 1953.

GARLICK, WILLIAM LYNNEWOOD, Associate Professor of Thoracic Surgery; A.B., Emory University, 1933; M.D., George Washington University, 1937.

GASKEL, Jason H., Associate in Orthopedic Surgery; A.B., Johns Hopkins University, 1930; M.D., University of Maryland, 1934.

GERLACH, JAMES J., Assistant in Otolaryngology; A.B., Colorado College, 1943; M.D., University of Maryland, 1946.

GOLDSTEIN, ROBERT BRUCE, Instructor in Urology; M.D., University of Maryland, 1954.

GOVATOS, GEORGE, Assistant Professor of Surgery; A.B., Boston College, 1926; M.D., Johns Hopkins University, 1930.

GREENSTEIN, GEORGE HERBERT, Instructor in Orthopedic Surgery; A.B., Johns Hopkins University, 1941; M.D., University of Maryland, 1950.

HAINES, John S., Assistant Professor of Urology; A.B., Washington and Lee University, 1934; M.D., Johns Hopkins University, 1938.

HAMBERRY, LEONARD GERARD, Assistant in Surgery; A.B., Loyola College, 1940; M.D., University of Maryland, 1950.

HAMMOND, ARTHUR F., JR., Instructor in Otolaryngology; B.S., Seton Hall University, 1953; M.D., University of Maryland, 1957.

HANASHIRO, Paul K., Assistant Professor of Thoracic Surgery; A.B., Indiana University, 1953; M.D., University of Maryland, 1957.

HEBB, Donald B., Assistant in Surgery; M.D., Johns Hopkins University, 1938.

HELFRICH, RAYMOND F., Associate in Surgery; A.B., Loyola College, 1927; M.D., University of Maryland, 1931.

HENDERSON, CHARLES MORGAN, Instructor in Neurological Surgery; B.S., University of Maryland, 1955; M.D., 1957.

HERRMAN, RAYMOND W., Instructor in Urology; A.B., University of Illinois, 1941; M.D., St. Louis University, 1946.

HILGER, THELMA, Instructor in Audiology; B.A., University of Iowa, 1950; M.S., University of Pittsburgh, 1952.

HOLBROOK, WILLIAM ADDISON, Assistant in Surgery; B.S., University of Maryland, 1942; M.D., 1945.

HUBBARD, T. Brannon, Jr., Assistant Professor of Surgery; B.A., Princeton University, 1938; M.D., Columbia University, 1942; Ph.D., University of Minnesota, 1952.

HULL, HARRY CLAY, Professor of Clinical Surgery; M.D., University of Maryland, 1932.

ISAACS, BENJAMIN HERBERT, Assistant Professor of Otolaryngology; A.B., Johns Hopkins University, 1932; M.D., University of Maryland, 1936.

JOHNSON, ROBERT H., JR., Assistant Professor of Surgery; B.A., Duke University, 1954; M.D., University of Maryland, 1958.

JONES, EVERETT D., Instructor in Orthopedic Surgery; B.S., Western Maryland College, 1938; M.D., University of Maryland, 1927.

KRAMER, HOWARD CALVIN, Instructor in Urology; M.D., University of Maryland, 1951.

LABROSSE, ELWOOD H., Research Associate Professor; B.S., Northwestern University, 1945; M.S., 1948; M.D., 1949; Ph.D., University of Texas, 1956.

LANGENFELDER, HENRY E., Assistant in Surgery; B.A., Johns Hopkins University, 1947; M.D., Hahnemann Medical College, 1951.

LAPIDARIO, RENATO S., *Instructor in Orthopedic Surgery*; A.A., University of Philippines, 1956; M.D., University of Philippines, 1961.

LEBOUVIER, JOHN DOUGLAS, Instructor in Orthopedic Surgery; B.S., London University, 1952; M.B., 1952.

LONG, WILLIAM B., Associate in Postgraduate Surgery; B.S., Princeton University, 1940; M.D., Johns Hopkins University, 1943.

LOVE, JACK W., Assistant Professor of Surgery; B.A., University of Illinois, 1952; Ph.D., Oxford University, England, 1956; M.D., Yale University, 1958.

LYNN, WILLIAM DAWSON, Instructor in Surgery; B.A., Princeton University, 1940; M.D., Johns Hopkins University, 1943.

MANSBERGER, ARLIE R., Jr., Professor of Surgery; M.D., University of Maryland, 1947.

MAYS, HOWARD BROOKS, Assistant Professor of Urology; M.D., University of Maryland, 1935.

McELWAIN, Howard B., Assistant in Surgery; M.D., University of Maryland, 1919.

MCLAUGHLIN, JOSEPH S., Assistant Professor in Thoracic Surgery; B.S. Loyola College, 1954; M.D., University of Maryland, 1956.

MECH, KARL FREDERICK, Assistant Professor of Surgery; B.S., University of Maryland, 1932; M.D., 1935.

MILLER, JOHN E., Instructor in Surgery; B.A., Pennsylvania State University, 1938; MILLER, Joseph M., Associate in Surgery; A.B., Columbia University, 1931; M.D., University of Minnesota, 1939.

M.D., Jefferson Medical College, 1942.

MOORE, KIRK, Assistant in Surgery; A.B., Princeton University, 1941; M.D., Johns Hopkins University, 1944.

MORGAN, THOMAS H., Associate Professor of Orthopedic Surgery, M.B., Cambridge University, 1943; M.D., University College Hospital, Medical School, London, 1945.

MOSBERG, WILLIAM H., JR., Associate Professor of Neurological Surgery; B.S., University of Maryland, 1942; M.D., 1944.

NATALE, RALPH D., Instructor in Otolaryngology; A.B., Johns Hopkins University, 1955; M.D., University of Maryland, 1959.

NELSON, JAMES WHARTON, Professor of Clinical Surgery; A.B., St. John's College, 1918; M.D., University of Maryland, 1925.

NOVIN, NEIL, Instructor in Surgery; B.A., New York University, 1951; M.D., State University of New York, 1955.

OLLODART, ROBERT M., Assistant Professor of Surgery; B.A., University of Buffalo, 1955; M.D., University of Buffalo, 1956.

O'ROURK, THOMAS R., Professor of Otolaryngology; M.D., University of Maryland, 1921.

OTENASEK, FRANK JOSEPH, Instructor in Neurological Surgery; A.B., Loyola College, 1933; M.D., Johns Hopkins University, 1937.

PESSAGNO, DANIEL JAMES, Professor of Clinical Surgery; B.A., Rock Hill College, 1916; M.D., University of Maryland, 1920.

PHELAN, PATRICK CAREY, JR., Associate in Surgery; B.A., Loyola College, 1935; M.D., University of Maryland, 1942.

PIERPONT, Ross Z., Assistant in Surgery; B.S., University of Maryland, 1939; M.D., 1940.

PLASSE, JEROME S., Instructor in Plastic Surgery; A.B., Columbia College, 1955; M.D., New York University, 1959.

PORTER, HARRY PRIMROSE, Assistant in Otolaryngology; A.B., Johns Hopkins University, 1939; M.D., 1943.

POWDER, JAMES RICHARD, Instructor in Urology; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.

RABUZZI, Daniel D., Instructor in Otolaryngology; A.B., Howard College, 1957; M.D., University of Pennsylvania, 1961.

REVER, WILLIAM BENJAMIN, JR., Associate in Surgery; M.D., University of Maryland, 1950.

ROSIN, John David, Associate in Surgery; B.S., Johns Hopkins University, 1938; M.D., University of Maryland, 1942; M.S., University of Minnesota, 1952.

RUDO, ALVIN D., Instructor in Otolaryngology; B.A., Johns Hopkins University, 1943; M.D., University of Maryland, 1945.

SCHERLIS, IRVING, Assistant in Urology; A.B., Johns Hopkins University, 1940; M.D., University of Maryland, 1943.

SCHIRMER, Horst K. A., Associate Professor of Surgery; B.S., Graf-Zeppelin-Real Gymnasium, Germany, 1951; M.D., Albert Ludwig University, Freiburg, Germany, 1956.

SCHMEISSER, GERHARD, Associate Professor of Surgery; A.B., Princeton University, 1949; M.D., Johns Hopkins University, 1953.

SETTLE, WILLIAM BOOTH. Associate in Surgery; A.B., University of Pennsylvania, 1930; M.D., 1933.

SHARRETT, John Oliver, Instructor in Neurological Surgery; M.D., University of Maryland, 1952.

SIWINSKI, ARTHUR GEORGE, Assistant Professor of Surgery; A.B., Johns Hopkins University, 1927; M.D., University of Maryland, 1931.

SNYDER, JEROME, Instructor in Otolaryngology; Ph.G., University of Maryland, 1928; B.S., University of Maryland, 1930; M.D., University of Maryland, 1932.

STEENBURG, RICHARD W., Associate Professor of Surgery; B.S., Stanford University, 1944; M.D., Harvard University, 1948.

STEWART, EDWIN HARVEY, Jr., Associate in Surgery; M.D., University of Maryland, 1943.

STICHEL, Frederick Louis, Jr., Assistant in Otolaryngology; B.S., University of Maryland, 1934; M.D., 1944.

STRAM, JOHN R., Instructor in Otolaryngology; B.S., University of Maryland, 1957; M.D., University of Maryland, 1960.

SUPIK, WILLIAM JOSEPH, Associate in Surgery; B.S., University of Maryland, 1940; M.D., 1940.

TANSEY, John J., Associate in Orthopedic Surgery; A.B., Brown University, 1942; M.D., University of Maryland, 1945.

THOMPSON, RAYMOND K., Associate Professor of Neurological Surgery; B.S., University of Maryland, 1937; M.D., 1941.

TOULSON, W. Houston Toulson, M.D., Professor of Urology, Emeritus.

VOSHELL, Allen Fiske, Professor of Orthopedic Surgery, Emeritus; A.B., Johns Hopkins University, 1915; M.D., 1919.

WALDER, ARNOLD I., Assistant Professor of Surgery; B.A., Tufts University, 1954; M.A., University of Minnesota, 1958; Ph.D., University of Minnesota, 1967; M.D., State University of New York, 1958.

WALKER, WILLIAM WALLACE, Associate Professor of Surgery; B.S., University of West Virginia, 1921; M.D., University of Maryland, 1923.

WEINER, ISRAEL HOWARD, Instructor in Neurological Surgery; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.

WEISS, HAROLD R., Instructor in Orthopedic Surgery; B.S., University of Maryland, 1952; M.D., 1954.

WENZLAFF, EDWARD F., Assistant in Orthopedic Surgery; A.B., Columbia College, 1948; M.D., University of Buffalo, 1954.

WHITE, JOHN P., III, *Instructor in Surgery*; M.D., University of Maryland, 1947. WIEDMAN, ALFRED K., *Instructor in Orthopedic Surgery*; M.D., University of Heidelberg, 1956.

WILHELMSEN, HANS R., Instructor in Plastic Surgery; D.D.S., University of Maryland, 1955; M.D., University of Maryland, 1959.

WILL, DAVID REID, Instructor in Surgery; M.D., University of Maryland, 1943.

YEAGER, GEORGE HERSCHEL, Professor of Clinical Surgery; B.S., University of West Virginia, 1927; M.D., University of Maryland, 1929. YOUNG, JOHN DAVID, JR., Professor of Urology and Head, Division of Urological Surgery; B.A., Bridgewater College, 1938; M.D., University of Maryland, 1941. ZINN, WAITMAN F., M.D., Professor of Otolaryngology, Emeritus.

Consultants, Fellows, Research Fellows, and Research Assistants

HAWTHORNE, ILSE H., Research Assistant in Thoracic Surgery. IMASHUKU, SHINSAKU, Research Associate Thoracic Surgery. KIRBY, WILLIAM H., JR., Research Associate in Thoracic Surgery. KRAMER, DAVID N., Research Associate in Surgery. LA BROSSE, ELWOOD, Research Associate Professor in Thoracic Surgery. MASAITIS, CESLOVAS, Research Associate in Thoracic Surgery. MENDONCA, PAULO P., Research Associate in Urology. PADGET, Dorcas H., Research Associate in Neurosurgery. TINGEY, HENRY B., Consultant-Biostatistician in Thoracic Surgey.

Lecturers

BEEBY, JAMES L.

Organization of the Curriculum and Courses of Instruction

Anatomy	83	Obstretrics and Gynecology	99
Anesthesiology	85	Ophthalmology	100
Biological Chemistry	86	Pathology	100
Biophysics	86	Neuropathology	101
Cell Biology and Pharmacology	88	Forensic Pathology	102
International Medicine	89	Pediatrics	102
Medicine	90		103
Arthritis	93	Preventive Medicine and	
Cardiology	93	Rehabilitation	105
Clinical Pathology	93	Physical Medicine	106
Dermatology	94	Psychiatry	107
Endocrinology and Metabolism	94	Radiology	108
Gastroenterology	95	Surgery	109
Hypertension and Renal		General Surgery	110
Disease	95	Neurosurgery	110
Infectious Diseases	96		110
Physical Diagnosis	96	Otolaryngology	111
Pulmonary Diseases	96		111
Microbiology	97		111
Neurology	98		114



ANATOMICAL HALL

ANATOMY

Professors: FIGGE (HEAD OF DEPARTMENT), BRANTIGAN AND KRAHL.

Associate Professors: MECH, O'MORCHOE, POLLEY AND WADSWORTH.

Assistant Professors: Donati, Linhardt, Petersen, Ramsay and Rennels.

Lecturer: HEARN.

Instructors: Barrett, Bulmash, Jenci, Masters, McFadden and Pfeiffer.

ANAT 101. Gross and Clinical Anatomy. (288)

First year. The course gives the student an opportunity to develop a basic concept of the morphology of the human body. Groups of four students will have the opportunity to dissect the human body. Some lectures will be devoted to roentgen anatomy and some to practical clinical aspects of anatomy.

ANAT 102. MICROANATOMY. (126)

First year, first semester. The course presents an integrated study of the histology and embryology of the human body. Insofar as possible, the course will be correlated with the gross anatomy and neurosciences courses, biochemistry and physiology.

ANAT 103. NEUROLOGICAL SCIENCES. (144)

First year, first and second semesters. This course combines all of the neurological subjects taught in all years of the medical curriculum. In the first year it consists primarily of the integrated course of neuroanatomy and neurophysiology with additional contributions from neurology, neuropathology, neurosurgery and electroencephalography. The structure and function of the central nervous system will be presented simultaneously. The course will involve dissections of the human brain, examination of stained microscopic sections of various levels of the brain stem and laboratory experience involving the study of functional aspects of the nervous system.

ANAT 105. GENETICS. (18)

First year, first semester. This course consists of a series of one-hour lectures which include a consideration of the principles of genetics, biochemical genetics, radiation genetics, immunogenetics, and microbial genetics. Special emphasis is placed on the importance, understanding and application of genetics to health and disease.

ANAT 106. CORRELATIVE ANATOMY. (16) ELECTIVE

Each week during the first year, patients will be demonstrated and the anatomical features of the case will be stressed to give the student a concept of the relationship of the anatomy to clinical subjects.

For Graduates

The graduate degrees offered by the Department of Anatomy are the Doctor of Philosophy and the M.D.-Ph.D.

ANAT 201. GENERAL ANATOMY OF THE HUMAN BODY. (9)

Same course as ANAT 101, but on a more advanced level. It can be taken by graduate as well as postgraduate students when space is available. Laboratory fee, \$25.00. (Figge, Staff)

ANAT 202. MICROANATOMY. (6)

Same course as ANAT 102, but on a more advanced level. Laboratory fee, \$15.00. (Figge, Donati, O'Morchoe)

ANAT 203. NEUROLOGICAL SCIENCES. (4)

Same course as ANAT 103, but with additional work of a more advanced nature. Laboratory fee, \$15.00. (Interdepartmental Committee)



UNIVERSITY OF MARYLAND PSYCHIATRIC INSTITUTE

- ANAT 205. GENETICS. (2)
 - Same course as ANAT 105, but on a more advanced level.

(Petersen)

- ANAT 206. CORRELATIVE ANATOMY. (1, 1)
 - Same course as ANAT 106, but examinations will be given.

(Figge, Staff and clinical departments)

ANAT 207. FETAL AND INFANT ANATOMY. (2)

First semester, fifteen periods of three hours each, to be arranged. This course is open to graduate students and postgraduates interested in pediatrics. Laboratory fee, \$10.00. (Krahl)

ANAT 208. STUDIES ON NORMAL AND ATYPICAL GROWTH. (2)

Lectures in problems of growth. Two hours per week, time to be arranged. Eighteen weeks. (Figge)

ANAT 210. Special Problems in Neuroanatomy. (2)

This course will deal with specific problems in the field of neuroanatomy, depending on the interests of the sponsor. It will consist of lectures, seminars, and specific laboratory assignments. (Figge, Staff)

ANAT 399. RESEARCH IN ANATOMY.

Maximum credits, 12 per semester. Research work may be taken in any one of the branches of anatomy. (Figge, Staff)

ANAT 499. DISSERTATION RESEARCH IN ANATOMY.

(Figge, Staff)

ANESTHESIOLOGY

Professors: Helrich (HEAD OF DEPARTMENT), GOLD. Associate Professor: McAslan and Staff.

During the first two years, the Department of Anesthesiology presents several lectures in the courses taught by the various preclinical departments. These lectures are intended to illustrate the application of the basic sciences to the clinical practice of anesthesiology. Emphasis is placed upon the physiologic and pharmacologic aspects of preanesthetic medication, choice of anesthesia, and management of patients during surgery.

ANES 101. Introduction to Anesthesiology.

Third year. The third year class is given a series of one hour lectures dealing with preoperative preparation and inhalation, local and spinal anesthesia. An effort is made to correlate the basic sciences with their clinical application.

ANES 102. Introduction to Anesthesiology.

Fourth year. Each senior student spends two weeks in the operating rooms of the University Hospital or one of its affiliated hospitals administering anesthesia. Informal group meetings are held to emphasize factors affecting the anesthetic management of patients and to discuss pertinent anesthetic problems. The students also attend the regularly scheduled staff conferences in Anesthesiology.

Art as Applied to Medicine is Now Renamed ILLUSTRATIVE SERVICES

BIOLOGICAL CHEMISTRY

Professors: ADAMS (HEAD OF DEPARTMENT), POMERANTZ.

Associate Professors: BODE AND FRANK. Assistant Professors: KIRTLEY AND GRYDER.

Instructor: Brown. Associate: CHANG.

For Medical Students

Biochemistry, as an introduction to the later preclinical subjects and to clinical studies, is presented within Basic Med. Sci 102, running throughout the first year. During the first semester, emphasis is on biophysics, biochemistry, and general physiology, whereas mammalian physiology occupies most of the second semester. The biochemistry portion of this course is oriented toward mammalian metabolism and enzymology, but also stresses general and comparative biochemistry. The assigned laboratory time will be devoted to tutorial work under a faculty member from one of the participating departments, as described under the first-year program.

All graduate courses as well as research opportunities are open to properly qualified medical students who may enroll either formally or informally.

For Graduate Students

The graduate degree offered is Doctor of Philosophy.

Biochem. 201. (6) This comprises the lectures of the first semester of Basic Med. Sci. 102 together with conferences and other special exercises. Laboratory time is devoted to faculty-supervised laboratory or library research as described under "For Medical Students."

Biochem. 202, 203. Advanced Biochemistry (2,2). A sequence of specific advanced courses, each a semester in length. Course titles have been: Enzymology (Spring 1968—(Kirtley)); Biochemical Genetics (Fall, 1968—(Bode)). Planned for 1969: Spring: Biochemical Mechanisms of Hormone Action (Pomerantz); Fall: Amino Acid Metabolism (Adams). Spring, 1970; (Microbial Biochemistry and Metabolism (Frank)).

Prerequisite, Basic Med. Sci. 102, or Biochem. 201 or equivalent.

Biochem. 204, 205. Seminar (1,1). Reports on current literature or research in progress. Prerequisite, same as Biochem. 202, 203.

Biochem. 399. Research. Maximum credits, 12 hours per semester.

BIOPHYSICS

Professors: MULLINS (CHAIRMAN OF DEPARTMENT) AND SJODIN. Assistant Professors: Hybi and Geduldig.

The Department of Biophysics offers graduate courses of study leading to the degrees of Master of Science and Doctor of Philosophy. The study programs are flexible and depend on the preparation and interests of the student. Detailed requirements are available from the department of Biophysics.

It is recommended that students studying for the degree of Doctor of Philosophy in Biophysics select a minor in either physics, chemistry, or mathematics. A number of fellowships are available for beginning students; after the first year of graduate study, research assistantships are available. Inquiries should be directed to the department; deadline for applications is March 1.

For Graduates and Advanced Undergraduates

BIOPHYS 100D. Introduction to Biophysics. (3)

Fall semester. Three lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 18, 19. An introduction to the study of living systems applying the methods of physics and chemistry. The cell as a physicochemical system and experimental methods for investigation, nerve impulse conduction and excitation, the interaction of radiation with living material; the structure and properties of muscle tissue, connective tissue, and their proteins.

(Staff)

BIOPHYS 101D. INTRODUCTION TO BIOPHYSICS. (3)

Continuation of Biophys. 100D. Given when number of students warrants.

BIOPHYS 102D. BIOPHYSICS OF RADIATION. (2)

Fall semester, even years. Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11. An advanced study of the interaction of radiation with living matter and with molecules of biological interest. Dosimetry problems and some bio-medical applications will be considered. (Mullins, Sjodin, Robinson)

BIOPHYS 103D. LABORATORY TECHNIQUES IN BIOPHYSICS. (3)

Fall semester, 1969-1970. One lecture and two laboratory periods a week. Prerequisites, Biophys. 100, 101, or consent of the staff. Training in the use of radioactive isotopes, radioactive counting equipment, and bioelectric measuring instruments applied to the study of membranes; viscosity, optical rotation, protein titrations, spectroscopy, conductivity, as applied to fiber forming proteins. Laboratory fee, \$20.00. (Staff)

BIOPHYS 104D. SEMINAR IN BIOPHYSICS. (1)

Prerequisites, Biophys. 100, 101, or consent of the staff. Seminars on various biophysical topics given by the staff, graduate students, and guest speakers.

(Staff)

For Graduates

BIOPHYS 200D. ADVANCED AND THEORETICAL BIOPHYSICS. (3)

Fall semester, odd years. Three lectures a week. Prerequisites, Biophys. 100, 101, or consent of staff. An advanced and critical analysis of experimental findings in terms biophysical theory. (Staff)

BIOPHYS 201D. MEMBRANE BIOPHYSICS. (2)

Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 20, 21. Diffusion in and through membranes developed from first principles with special reference to problems of ion transport in biological membranes. (Sjodin)

BIOPHYS 203D. X-RAY CRYSTALLOGRAPHY. (3)

Three lectures a week. An introduction to molecular structure determination by the techniques of x-ray diffraction. Emphasis upon problems arising in structural studies of molecules of biological origin. (Hybl)

BIOPHYS 205D. Colloquium in Biophysics. (1)

Prerequisites, Biophys. 104 or consent of the staff. Colloquia on various biophysical topics given by the staff, graduate students and guest speakers. (Staff)

BIOPHYS 499D. RESEARCH IN BIOPHYSICS. (3-6)

Required of students planning to take the Doctor of Philosophy degree in Biophysics. (Staff)

CELL BIOLOGY AND PHARMACOLOGY

Professor: APOSHIAN (HEAD).

Associate Professors: O'NEILL, LUDLUM, RYSER AND DUPRAW.

Assistant Professor: Brown.

PHARMACOL 101. MEDICAL PHARMACOLOGY. (233)

Second year. The purpose of this course is to present the interactions of therapeutic and other agents with biological systems ranging from isolated enzyme systems through more complex systems, including animals and man.

For Graduates

The graduate program in Cell Biology and Pharmacology is designed for students seeking the degree of Doctor of Philosophy. For students studying for the degree of Doctor of Medicine, a program is available for continued study and research toward a Ph.D.

PHARMACOL 201. F. S. GENERAL PHARMACOLOGY. (9)

Same as 101, for students majoring in pharmacology. Additional instruction and collateral reading are required. Laboratory fee, \$20.00.

PHARMACOL 205. RESEARCH.

Maximum credits, 12. Credit in accordance with the amount of work accomplished.

PHARMACOL 206. PHARMACOLOGIC METHODS.

Maximum credits, 4. Credit in accordance with the work accomplished.

PHARMACOL 207, 208. CHEMICAL ASPECTS OF PHARMACODYNAMICS. (2, 2)

PHARMACOL 209. BIOCHEMICAL PHARMACOLOGY. (2)

PHARMACOL 210. HISTORY OF PHARMACOLOGY. (2)

PHARMACOL 211. THE BIOLOGY OF MACROMOLECULES. (4)

ILLUSTRATIVE SERVICES, DEPARTMENT OF

THOMAS M. STEVENSON, Director

This facility is maintained to supply Audio-visual Aids to Medical School faculty and staff for teaching, research, and publication purposes. The Department also supports student activities which require this type of service. The primary services are: Illustration, Photography, Offset Printing, and Projections.

ILLUSTRATION

Includes comprehensive renderings of surgical and clinical techniques, anatomical renderings, statistical charts and other graphic representation, simple and comprehensive design of flyers, brochures, posters, etc. It also includes layout and paste-up for offset printing and photographic copying. In addition this section is responsible for the design of motion picture titles, displays, and exhibits.

PHOTOGRAPHY

Photography includes ordinary photographic copying of flat material such as written matter, x-rays, laboratory tracings and data, etc. Photography of specimens, equipment setups, surgical, clinical, and laboratory activities. Also, Public Relations, archives, and portraiture for school related purposes. The Department is equipped for photomicrography (large and small format), slide duplication and motion picture photography. The Department further acts as a collecting station for commercial processing of color photography by other departments.

OFFSET PRINTING

This section is maintained to furnish volume duplication and facsimile printing. The plant is equipped for graphc arts finishing such as collating, folding, stapling, punching, cutting and padding.

PROJECTIONS

The Department is responsible for the purchase, maintenance, and operation of projection equipment for use in classroom instruction. Projectors are permanently located in a number of classrooms and lecture halls. Additional equipment is stored in the Department for use in less organized areas. A room with equipment is available within the Department for reviewing projection material.

INTERNATIONAL MEDICINE

Professors: Clyde (Head of Department), Barnett, Klimt, McCrumb and Middlebrook.

Associate Professors: Aziz, Meinert, Stauffer and Woodbury.

Assistant Professors: Anthony, Baker, Barry, Begum, Canner, Carozza, Knatterud, Krol, McCarthy and Wolfe.

International Centers for Medical Research and Training were created under the aegis of the National Institutes of Health in accordance with objectives of the International Health Research Act of 1960 (Public Law 86-610, July 12, 1960). It was the purpose of this act to advance the status of international health research and research training. Congress further expressed the hope that "a program through United States universities for the early development of research and research training centers with adequate field opportunities for international studies" would be established. This program under the direction of the Office of International Research of the National Institutes of Health provided for the establishment of a research and research training center at the University of Maryland School of Medicine in Baltimore in March of 1961. The University of Maryland International Center for Medical Research and Training has succeeded in the establishment of domestic and overseas research-training programs in Baltimore, Maryland, and Lahore, West Pakistan, with the following objectives:

- 1. To offer research training in international health problems to American physicans and allied professional workers as well as their Pakistani counterparts.
- 2. To conduct medical and allied research at the domestic and overseas sites; the mechanisms for such training.

3. To create, through scientific endeavors, an atmosphere of mutual understanding and friendship between the host nation and the United States.

In July of 1963 international health activities of the University of Maryland were consolidated under an Institute of International Medicine with departmental status within the School of Medicine. Under the present administrative arrangement, the International Center for Medical Research and Training forms the nucleus of the Institute into which other international and domestic programs are incorporated.

The Institute of International Medicine is composed of Divisions of Epidemiology and Biostatistics, Experimental Pathology, Medical Entomology and Ecology, and Virus Diseases, and derives major support in addition from the

Departments of Microbiology, Medicine, and Pediatrics.

EDUCATIONAL PROGRAM

The Research Associate program of the International Center provides for postdoctoral training in the various disciplines represented within the Institute of International Medicine and affiliated Departments of Mcrobiology, Medicine, and Pediatrics. In general, the program encompasses three years, two of which are spent on a field assignment at the Pakistan Medical Research Center

Upon entry into the program each Research Associate works out in advance with his advisor a definitive plan of study and research. Assignment to Divisions and appointment to advisors depends upon the candidate's background, interests, and needs. The global concept of medicine is emphasized and provision is made for more advanced training in specialized aspects of international health. Following a basic orientation course, each Research Associate proceeds into one or another of specialized training areas. During this time he becomes identified with one of the Institute's Divisions and begins preceptor type training through the mechanism of a research project which also prepares the candidate for field work in Pakistan, Postdoctoral candidates with Ph.D., M.D., and D.V.M. degrees enter in one of several specialized programs soon after appointment to the program. These include infectious diseases-microbiology, nutrition, medical entomology, and epidemiology. In many instances overlapping interests will result in combined training and joint research projects. In some cases, additional clinical training of physician candidates will be considered essential to the success of the overall program.

Applications should be submitted through the Head of the Department.

MEDICINE

Professors: Woodward (HEAD OF DEPARTMENT), CONNOR, ELLIS, KRAUSE, T. MORRISON, REVELL, H. ROBINSON, L. SCHERLIS, V. SMITH, TIGERTT AND WISWELL.

Associate Professors: Bereston, Borges, Cotter, Eastland, Ellinger, Greis-MAN, GUNDRY, HETHERINGTON, HORNICK, KARNS, LISANSKY, LUBASH, S. MORRISON, PARKER, H. RASKIN, J. RASKIN, R. ROBINSON, SCHUBART, SIMP-SON, SINGLETON AND WORKMAN.

Assistant Professors: BEACHAM, BURNETT, CARROLL, CHARACHE, J. COHEN, EBELING, ENTWISLE, EVANS, FREEMAN, JACOBSON, JIJI, LEACH, LEE, LEGUM, LERNER, D. LEVY, MERRILL, MULLER, NEISH, REITER, S. SCHERLIS, SERRA, SHAPIRO, S. SMITH, SWISHER, WISSEMAN, ZIEVE AND STAFF.



MED 102. CLINICAL CLERKSHIP IN MEDICINE.

Third year. This course consists of a clinical clerkship on the medical wards of the University of Maryland Hospital, Baltimore City Hospitals, Mercy or Maryland General Hospitals, for a period of nine weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations, and progress notes of assigned cases. They attend ward rounds and conferences in general medicine with the Resident Staff, Attending Physicians, and Chiefs of Service. For an additional three weeks students are assigned for work in neurology or pulmonary diseases, including tuberculosis and attend special ward rounds and teaching conferences in general medicine.

MED 103. THE PRINCIPLES OF MEDICINE.

Third year. A short series of lectures in General Medicine, and Clinical Medicine are given to the entire junior class.

MED 104. ADVANCED CLINICAL CLERKSHIP IN MEDICINE.

Fourth year. Clinical clerkship on the medical wards of the University of Maryland Hospital, Mercy Hospital, Maryland General Hospital or York Hospital for four weeks. An additional four-week period is spent in the Medical Out-Patient Department where instruction is given in General Medicine and the medical specialties. During this tour the senior students participate in the workup of chronically ill patients at the Montebello Chronic Disease Hospital, and attend consultative rounds in cardiology, infectious diseases, gastroenterology, arthritis, radioisotopes, neurology, hematology, endocrinology, and pulmonary diseases on the wards of the University Hospital.

Selected students who have completed the junior year may take Medicine 104 during the summer months. Application should be made to the Department Head prior to March 1 of the current year. Those students completing the course successfully will be assigned elective time during the academic year. This program is designed to foster research for promising students and to provide for more intensive training in the fundamentals of clinical medicine.

SUMMER FELLOWSHIPS

Students who have completed their junior year are encouraged to seek additional training during the summer months preceding their senior studies. This training may be obtained in one of several ways. A limited number of students are appointed to Clinical Clerkships on the Medical Wards of the University Hospital. In these positions, they are responsible, under supervision, for the history, physical examination, laboratory studies, and progress notes of assigned cases.

In addition, certain of the medical subspecialty divisions provide specialized training for students as Summer Fellows during the summer months. The applicant is encouraged to apply directly to the Division Head. These fellowships enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems and therapeutic regimens peculiar to each of the medical subspecialties. Summer Fellowships are available in the following Divisions: Cardiology, (2 appointments), Dermatology (2 appointments), Endocrinology (2 appointments), Gastroenterology (2 appointments), Hematology (2 appointments), Renal Hypertension (2 appointments), Infectious Diseases (2 appointments), Arthritis (1 appointment), Radioisotopes (1 appointment), Pulmonary Diseases (2 appointments), and Clinical Physiology (2 appointments). Interested applicants should contact the respective Division Head prior to January 1 of the year in which the fellowship is desired. In many in-

stances a fellowship award is made providing remumeration for two or three of the summer months.

POSTGRADUATE FELLOWSHIPS

These are available in the various specialties of Medicine. For details see specific division.

The Department of Medicine, for administrative purposes, is divided into ten Divisions. Each of these Divisions participates in the major courses taught by the Department. In addition, a number of specialized courses and postgraduate fellowships are offered by the Divisions.

DIVISION OF ARTHRITIS

Doctors: BARTH (HEAD OF DIVISION), KOCHMAN AND STAFF.

MED 105. DIVISION ROUNDS.

Third year. Elective.

MED 105A. OUTPATIENT CLINIC.

Fourth year. Elective. Weekly arthritis outpatient clinics and attendance at weekly arthritis seminar and rounds.

DIVISION OF CARDIOLOGY

Doctors: L. Scherlis (Head of Division), Antlitz, Dembo, Gonzalez, Lee, Salan, S. Scherlis, Singleton, Swisher and Staff.

ID 3. PHYSICAL DIAGNOSIS.

Second year, second semester. The Division of Cardiology participates in presenting this course.

MED 106. ELECTROCARDIOGRAPHY. (16)

Third and fourth years. Elective. This is an introductory course consisting of illustrated group lectures and exercises.

MED 106A. OUTPATIENT CLINIC AND DIVISIONS ROUNDS.

Third and Fourth year. Elective weekly clinic and attendance at rounds.

FELLOWSHIPS

These are available to selected postgraduate applicants. The Fellow participates in the activities of the Division, including cardiac catheterization, electrocardiography, phonocardiography, and vectorcardiography. Research Fellowships are also available. The fellowship begins July 1st of each year. A financial stipend is provided. Application is made through the Head of the Division and must be completed by October of the preceding year.

DIVISION OF CLINICAL PATHOLOGY

Doctors: Spurling (acting head of division), Jiji, Kushner, Lancaster, Linthicum, Masters, Miller, Sherrer, Taylor and Zahir.

MED 101. CLINICAL PATHOLOGY. (128)

Second year. The course is designed to train the student in the performance and interpretation of the fundamental laboratory procedures used in clinical diagnosis. During the first semester the basic techniques of hematology as well

as clinical aspects of blood diseases are taught. Blood group immunology in relation to transfusion is also covered. In the second semester the performance and interpretation of tests used in the diagnosis of renal, hepatic, gastric, pancreatic, and metabolic diseases are considered. A review, with clinical applications, of acid-base balance and electrolyte disturbances is included. Methods of examination of cerebrospinal fluid, transudates and exudates are taught. Elements of clinical parasitology complete the work in this semester.

Each student provides his own microscope and blood counting equipment.

A completely equipped locker is provided for each student.

POSTGRADUATE FELLOWSHIPS

Two full-time clinical and research fellowships in hematology are available to applicants who have had a minimum of one year internship. A financial stipend is provided. Application should be made to the Head of the Division.

DIVISION OF DERMATOLOGY

Professor: H. M. ROBINSON, JR. (HEAD OF DIVISION).

Doctors: BACHARACH, BERESTON, BURNETT, ELLIS, HOLLANDER, J. RASKIN. R. C. V. ROBINSON, SHAPIRO, YAFFEE AND STAFF.

MED 107. Introduction to Dermatology.

Third year. Students are given assigned reading on the more common skin eruptions. Nine two hour clinical sessions are held for each quarter of the junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis.

MED 108. PRACTICAL EXERCISES IN DERMATOLOGY.

Fourth year. Groups of 15 students spend 20 hours in the out-patient department where they are given individual instruction in the diagnosis and treatment of cutaneous lesions. Emphasis is laid on the relationship of various eruptions to systemic conditions. Instruction is given in mycologic technique.

MED 108A.

Students who take dermatology for the senior elective receive special training in clinical dermatology and the basic sciences as applied to dermatology.

GRADUATE TRAINING

The Division of Dermatology is approved by the American Board of Dermatology for a three year period of training which is required by the Board. This consists of instruction in the basic sciences (mycology, bacterology, histopathology, chemistry, and physiology), and instruction in clinical dermatology. Emphasis is placed on the relationship of cutaneous lesions to systemic diseases. Residents and Fellows spend a part of the training period at the Rosewood School for Retarded Children, the Baltimore City Hospitals, and in the private offices of the members of the staff. Temporary membership in the dermatologic societies is provided under the sponsorship of the Division Head.

DIVISION OF ENDOCRINOLOGY AND METABOLISM

Doctors: Connor (HEAD OF DIVISION), WISWELL, WORKMAN AND STAFF.

ENDOCRINE CLINIC—CONFERENCE AND ROUNDS.

Fourth year. Elective. Patients with a variety of endocrine-metabolic diseases

are seen in the Out-Patient Department every Monday afternoon from 1:30 to 4:00 p.m. This is followed by a Conference in which clinical case material is presented for discussion with staff members and students actively participating. Every Friday afternoon weekly wards rounds are held. Elective periods for concentrated study for 1- to 3-month intervals are available for selected students. Summer fellowships for students are also offered.

NUCLEAR MEDICINE

DR. WORKMAN (HEAD)

PHARMACOLOGY 201.

Second year. In cooperation with the Department of Pharmacology, a portion of one laboratory session is utilized to demonstrate the accuracy of a radio-isotope method of estimating thyroid function.

MED 110.

Fourth year elective (Conference Nuclear Medicine).

Postgraduate Fellowships are available to applicants who have completed internship and at least one year of residency training. Opportunities for active participation in clinical and research activities are available. Independent research investigations are encouraged. A financial stipend is provided. Three full-time fellowship positions are available.

CLINICAL PATHOLOGY.

Second year. In cooperation with the Division of Clinical Pathology two lecture-demonstrations are presented emphasizing diagnostic radioisotope procedures useful in hematology.

DIVISION OF GASTROENTEROLOGY

Doctors: H. Raskin (Head of Division), V. Smith, W. Inavatullah and Staff.

The Division of Gastroenterology presents a concentrated two weeks course in applied basic science to gastrointestinal disorders in the sophomore year. Weekly G-I conferences are held. A monthly combined G.I.-Radiology meeting is held on the second Wednesday of each month and a combined G.I.-Pathology session is held on the fourth Tuesday of each month. The outpatient clinic is held every Thursday.

FELLOWSHIPS

Senior students wishing to take an elective month of gastroenterology are most welcome. Summer student fellowships are available. Those interested in a two year postgraduate fellowship should apply to the Head of the Division.

DIVISION OF HYPERTENSION AND RENAL DISEASES

Doctors: Lubash (HEAD OF DIVISION), BORGES, LEWANDOWSKI AND STAFF.

MED 110. CLINICAL ELECTIVE.

Fourth year. Elective. The division provides consultation service for patients with a variety of hypertensive and renal diseases. A weekly outpatient session is also conducted. An active dialysis and transplantation program has been developed in conjunction with the Department of Surgery and its Division of Urology. There are daily ward rounds and a weekly conference. Students

may participate in all these activities for elective periods of one month or longer.

FELLOWSHIPS

These are available to selected postgraduate applicants. The Fellow participates in investigative and clinical activities of the division. A financial stipend is provided. Application is made through the Head of the Division.

DIVISION OF INFECTIOUS DISEASES

Doctors: Hornick (Head of Division), L. Fiset, Rapoport, M. Snyder, Togo, and Staff.

Conferences are held each Thursday afternoon dealing with selected topics in infectious diseases to which students are invited.

CLINICAL ELECTIVE

Special programs are provided for senior students during their elective periods.

POSTGRADUATE FELLOWSHIPS

The division sponsors four Fellows who receive instruction in laboratory techniques and clinical investigation. Fellows participate in all functions of the division, including collaboration in investigative problems. A financial stipend is provided. Application is made through the Head of the Division.

STUDENT FELLOWSHIPS

The division offers two fellowships for support and supervision of students throughout their medical school career. These fellowships provide special instruction and experience in infectious diseases. Application is made through the Head of the Division.

DIVISION OF PHYSICAL DIAGNOSIS

Doctor: COTTER (HEAD OF DIVISION) AND STAFF.

- ID 2. Introduction of Clinical Medicine.

 Second year. The Division participates in presenting this course.
- ID 3. PHYSICAL DIAGNOSIS.

Second year. This course implements ID. 2. and provides the student with bedside instruction in physical diagnosis. Small tutorial groups are formed, each under the direction of an instructor. In the first five weeks, experience in physical examination of normal individuals is given on afternoon weekly.

During the remainder of the year, students become acquainted with abnormal signs through examination of hospitalized patients. For five weeks the Division of Cardiology gives instruction in the physical examination of the heart. Thereafter, sections are assigned in rotation to the Departments of Neurology and Pediatrics for instruction in these specialties.

DIVISION OF PULMONARY DISEASES

Doctors: Simpson (Head of Division), Blide, Kerr, Marine, Ruche, Spicer and Staff.

MED 113. CLINICAL CLERKSHIP IN PULMONARY DISEASES.

Third year. This 3 week period of training is given on the chest ward service and in the chest clinic. Students are assigned hospital patients whom they work up, follow, and present at rounds and at conference. Clinic and bedside teaching emphasizes development of the technique of the medical examination which is correlated with x-ray study. The seminars and conferences emphasize an understanding of the basic processes involved in respiratory health and disease.

Fourth year. Elective. The chest clinic provides an opportunity for clinical and physiologic study of patients with chronic bronchopulmonary disease, especially chronic bronchitis and emphysema. Emphasis during this elective period is placed on development of understanding of principles and techniques of testing of cardio-pulmonary function testing.

STUDENT FELLOWSHIP

The service offers three such positions for the support and supervision of students throughout their medical school career. These fellowships will provide special graded instruction and experience in research methodology, epidemiology, physical diagnosis, clinical chest disease, and pulmonary physiology. The individual student during his medical school career, will gradually be introduced to clinical medical research so that he may plan and complete a research project during this period.

MICROBIOLOGY

Professor: Wisseman (HEAD OF DEPARTMENT).

Research Professor: TRAUB.

Associate Professors: Eylar, P. Fiset, Kessel and M. Snyder. Assistant Professors: McCrumb, Myers, Rosenzweig and Staff.

Instructors: FABRIKANT.

MICROBIOL 101. MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (180)

Second year, first semester. This course is intended to introduce the student to basic concepts of microbial agents and immunologic mechanisms necessary to understand infectious diseases, public health, and diseases of immunologic origin. Properties of microorganisms are considered in relation to pathogenesis of infections, mechanisms of tissue damage and host defense mechanisms. Bacterial, fungal, viral, and rickettsial agents are studied in both lecture and laboratory.

For Graduates

The Department of Microbiology offers the degree of Doctor of Philosophy and encourages especially those who wish to enroll in the combined M.D.-Ph.D. program. While the degree of Master of Science may be offered in special instances, priority for research facilities will be given aspirants to the Ph.D. degree. These courses are available only by prior arrangement with the Staff.

MICROBIOL 201. MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (8)

First semester. Four lecture hours and eight hours in laboratory and group conferences per week. Laboratory fee, \$10.00. This course, intended for the serious advanced student of medical microbiology, is built upon the framework of Microbiol. 101 supplemented with advanced readings and laboratory work.

MICROBIOL 203. MICROBIAL PHYSIOLOGY. (3)

Second semester, alternate years. Three lectures per week supplemented with demonstrations. By consent of instructor.

MICROBIOL 206,207. SEMINAR. (1, 1)

First and second semesters. One session per week. Graduate students, staff, and guests participate in comprehensive and critical reviews of subjects of special interest or pertinent to graduate training program.

MICROBIOL 209. SPECIAL TOPICS.

(Permission and credit arranged individually.) This course provides the opportunity for the graduate student to pursue under supervision subjects of special interest not offered in other formal courses.

MICROBIOL 210. ADVANCED VIROLOGY AND RICKETTSIOLOGY LECTURE. (3)

This course considers the general properties of viruses and rickettsiae, methods for studying them, and finally concentrates on agents of medical importance. Special emphasis is placed on the host-parasite relationship, characterization of the various viral and rickettsial agents and on biological and ecological factors. Registration is by permission of instructor only. The course will be given on the average on alternate years in the Spring semester. There are two weekly sessions of 90 minutes each. Prerequisite: Microbiol. 201 or equivalent.

MICROBIOL 211. VIROLOGY AND RICKETTSIOLOGY LABORATORY. (2)

This course is the laboratory counterpart of Microbiol. 210. It is designed to familiarize the student with the major techniques for the study of virus and rickettsial agents, and to give him first hand experience with a variety of the more common agents. Registration is by permission of instructor only. Because of the limited facilities and the nature of the work, it may be necessary to restrict registration in this course according to the following priority: students majoring in medical microbiology, then students minoring in microbiology and, finally, others. The laboratory consists of two formal sessions per week; however, the nature of the work frequently requires additional participation throughout the week.

MICROBIOL 399. RESEARCH (FOR THESIS PROBLEM) Maximum credits, 12 hours per semester.

NEUROLOGY

Professors: NELSON (HEAD OF DEPARTMENT), MERLIS, MAYER AND VAN BUSKIRK.

Associate Professors: HECK AND TEITELBAUM.

Assistant Professors: Kramer, Mosser, Price. OLEYNICK AND SUTTON.

Instructor: HULFISH.

NEURO 101. Introduction to Clinical Neurology. (16)

(Second year.) Lecture-demonstrations in neurology are presented, emphasizing correlation of anatomy, physiology, and pathology of the nervous system with clinical neurology.

ID 3. NEUROLOGIC ASPECTS OF PHYSICAL DIAGNOSIS. (8)

(Second year.) The Department participates in the physical diagnosis course with instruction in the performance of the normal neurologic examination as well as examination of selected patients with neurologic disorders.

NEURO 102. CLINICAL CLERKSHIP IN NEUROLOGY.

Third year. Available for a portion of the third year class. This course consists of a clerkship on the neurology ward of the University Hospital for approximately four weeks. Under house staff and attending staff supervision, the students are responsible for the total care of the patient with neurologic disease. They may assist in the performance of some procedures and attend rounds and conferences in neurology.

NEURO 103. PRACTICAL CLINICAL NEUROLOGY. (10)

Third year. A series of lecture-demonstrations given to the entire third year class with emphasis on diagnosis and treatment of the common neurologic diseases.

NEURO 104.

Fourth year. Elective time of 4 weeks may be spent in the Department of Neurology, either on the ward or in one of the research laboratories.

SUMMER FELLOWSHIPS

Students who have completed their first, second, or third years and have an interest in the neurologic sciences may apply for additional training in clinical neurology or in one of the research laboratories of the Department of Neurology. Qualified students may receive remuneration for their summer work.

POSTGRADUATE PROGRAM

There is a fully approved three year program for specialty training in Neurology at the University Hospital. This provides for clinical training as well as a rotation through the associated basic science disciplines. Fellowships with a stipend are provided and begin July 1 each year. For further information, contact the Head of the Department.

OBSTETRICS AND GYNECOLOGY

Professors: HASKINS (HEAD OF DEPARTMENT) AND KALTREIDER.

Associate Professors: MIDDLETON AND MUNFORD.

Associate Clinical Professors: Cornbrooks and McNally.

Assistant Professors: Durkan, Garcia, Misenhimer, Moszkowski, Rimer and

Assistant Clinical Professors: Brady, Cohen, Davis, Diggs, Dixon, Dumler, Kardash, Martin, Morris, Seegar and Staff.

Instructors: ANCES, BACA AND WESTNEY.

OB-GYN 101. CLINICAL CLERKSHIP IN OBSTETRICS AND GYNECOLOGY.

Third year. Students are assigned to Obstetrics and Gynecology for a period of six weeks. As clinical clerks, they participate in the original diagnostic studies, pelvic surgical procedures, and postoperative care of hospitalized patients.

Daily rounds, seminars, and departmental conferences with the attending staff and house officers aid the student in the interpretation and correlation with

his observations, diagnoses, and the several therapeutic regimens.

Specific instruction is provided in pathology, basic science, and endocrinology as related to obstetrics and gynecology. Obstetrical manikin exercises, prenatal examination, and gynecologic outpatient care are accomplished in the Outpatient Department.

OB-GYN 102. ADVANCED CLINICAL CLERKSHIP IN OBSTETRICS AND GYNECOLOGY. Fourth year. Students are assigned to Obstetrics and Gynecology at Baltimore City Hospital for a period of four weeks. The student rotates through the accident room, delivery floor and maternity division. He participates in daily rounds, deliveries, postpartum care, and seminars. Specific instruction in cancer, obstetrical complications, and pelvimetry is provided.

OPHTHALMOLOGY

Professor: RICHARDS (HEAD OF DEPARTMENT).

Associate Professors: Fox, Michaelis, Schocket and Cavonius. Assistant Professors: BERNSTEIN, BOAZ, MEISELS AND RUBACKY.

Research Associate: HILZ.

Instructors: Braver, Creamer, Feinberg, Goldberg, Katzen Kogan, Kohl-HEPP, KRONTHAL, ORTEL, O'ROURK AND ROSS.

OPHTHAL 101. INTRODUCTION TO OPHTHALMOLOGY.

Third year. A lecture course for the entire class covers the fundamentals of Ophthalmology. Weekly section work, with emphasis on the use of the ophthalmoscope, includes discussion periods, demonstrations and clinics.

OPHTHAL 102. CLINICAL OPHTHALMOLOGY.
Fourth year. Ward rounds, demonstrations, discussion periods and clinics in diseases of the eye.

PATHOLOGY

FULL TIME STAFF

Professors: SCHULTZ (ACTING HEAD OF DEPARTMENT), FIRMINGER AND WAGNER.

Associate Professors: MING, S. C., RASMUSSEN AND WOOD.

Assistant Professors: HENDRICKSON, LEVIN, MING, P-M. AND PARR.

CLINICAL STAFF (VISITING)

Professors: FISHER, MERKEL, WEINBERG AND WRIGHT.

Associate Professors: FREIMUTH, LINDEBERG, REIMANN AND TOLL.

Assistant Professors: Adams, Burkart, Cranley, Guerin, Hicken, Kiefer,

KIME, PASSEN, REUBER, SPITZ, SPRINGATE AND HAMELI.

Instructors: FERRARI, HOFFMAN AND WILSON.

PATH 101. GENERAL, SYSTEMIC AND EXPERIMENTAL PATHOLOGY. (272)

Second year. This course starts with the study of the basic principles of pathology and progresses with the study of diseases of the various organ systems. In the second semester instruction in diseases of the organ systems is closely correlated with other departmental offerings and Introduction to Mechanisms of Disease through the Subject Systems Committees. Teaching is chiefly by the case method using fresh and fixed autopsy cases but also utilizes gross museum specimens and a set of prepared selected histologic slides. Students assist in the performance of autopsies in small groups, prepare final protocols, and present the findings and interpretation of the cases to others in the class.

Included in the course is an introduction to experimental pathology by two experiments illustrative of basic pathologic principles.

PATH 102. EXPERIMENTAL PATHOLOGY. (HOURS VARY WITH PROJECT CHOSEN.) Second year. A limited number of students have the opportunity to participate in experimental work. Some carry out a series of 6 experiments selected to illustrate the dynamics of disease processes. Others choose some area of the Department such as tissue culture, electron microscopy, or cytopathology for seminars and the pursuit of an original project under the supervision of a member of the Staff.

PATH 103. CORRELATIVE MEDICAL PATHOLOGY. (9)

Third year. This course is given in collaboration with the Department of Medicine and consists of a series of conferences with small groups of students, an internist and a pathologist. An illustrative clinical case is used as the base for discussion of a few selected diseases with particular emphasis on correlating the anatomical and functional changes with the clinical disease.

PATH 104. SURGICAL PATHOLOGY. (16)

Fourth year. This course consists of a series of rather informal lectures and discussions of the pathology of various surgical conditions with small groups of students using colored lantern slides, gross museum specimens, a set of prepared microscopic slides and current gross surgical specimens.

PATH 106. ELECTIVE PATHOLOGY. (115)

Fourth year. Students may spend a month continuously in pathology as an assistant to a resident participating in autopsies, examination of surgical specimens, and contributing to discussions in the various conferences of the Department.

PATH 107. (56)

Second year (second semester). A small group of students attend a series of round table discussions on the diagnosis of medical diseases by biopsy. The course includes microscopic study of the histopathologic findings, their interpretation and significance with special emphasis on diseases of the liver and kidney.

FELLOWSHIPS (AFTER SOPHOMORE YEAR)

Students may be selected for summer fellowships in pathology or in certain instances drop out of the regular curriculum for a year and devote their entire time to pathology. They may spend a minor proportion of their time as externs in pathology and attending the regular intradepartmental conferences but the major part of their time is devoted toward research, with students participating in original projects under the supervision of a Staff member.

DIVISION OF NEUROPATHOLOGY

Doctors: WAGNER (HEAD OF DIVISION), PARR AND STAFF.

Neuropathology is now taught as a part of a newly developed curriculum known as the Neurologic Sciences Curriculum. Since 1964, all departments concerned with the teaching of neurologically related subjects have cooperated in the formulation of a single curriculum. All aspects of the neurologic sciences are covered in a progressively expanding manner during the 4 years the students spend in school.

Neuropathology is included in the curriculum as follows:

Neurologic Sciences I: Correlative illustrations are presented as their principal anatomic areas are studied. Illustrative material is presented in the section on Clinical Anatomical Correlation.

Neurologic Sciences II: A complete course of basic lectures in Neuropathology, demonstrations of typical neuropathologic lesions and clinicopathologic case studies, becomes a continuing integrated aspect of the Neurologic Science Curriculum.

Neurologic Sciences III and IV: Continued specific correlation and periodic reviews of Neuropathology is provided during the clinical years. Formal Clinicopathologic Conferences are included.

DIVISION OF FORENSIC PATHOLOGY

Doctors: Fisher (Head of Division), Freimuth, Lindenberg, Schweda, Spitz and Springate.

FOR GRADUATES

In addition to teaching basic forensic pathology in the second year course this division offers a number of other courses including a graduate program in toxicology leading to the degrees of Master of Science and Doctor of Philosophy in Toxicology.

LEG MED 201. LEGAL MEDICINE. (1)

One hour of lecture for twelve weeks, 4 hours assigned reading. This course embraces a summary of medical jurisprudence including the laws governing the practice of medicine, industrial compensation and malpractice, procedings in criminal and civil prosecution, medcal evidence and testimony, including medicolegal toxicology. (12 hours).

LEG MED 202. Toxicology. (10)

Two hours lecture, 8 laboratory hours per week for 1 year. The lectures include discussion of mechanism of action of poisons, lethal doses, antidotes and methods of detection and quantitation of poisons in tissues and body fluids. There is also included some discussion of industrial toxicology relating industrial exposures to toxic substances to effects produced in the worker using these materials. The laboratory work embraces practical application of analytical procedures for the detection and estimation of poisons in post mortem tissue samples.

LEG MED. 203. Gross Pathologic Anatomy as Related to Toxicology. (2) Two hours per week for one year. This course includes elementary anatomy with normal histology and selected histopathology as it will be seen by the toxicologist. It is a correlated course embracing anatomy, basic physiology and the alterations in function as well as structure brought about by disease and poisoning.

FOR MEDICAL STUDENTS

Normal human physiology is presented in the first year in two different courses: Basic Medical Sciences 102, and Neurosciences 101.

LEG MED 205. RESEARCH IN TOXICOLOGY LEADING TO PREPARATION OF A THESIS FOR THE PH.D. (30)

PEDIATRICS

Professors: Cornblath (Head of Department), Bradley (Emeritus), Fink-ELSTEIN AND HEPNER.

Associate Professors: Baldwin, Clemmens, Glaser, Glick, Gorton, Scherlis, Stine, Walker, Weaver and Wells.

Assistant Professors: Ballis, Fineman, Heldrich, Irwin, Jensen, Kappelman, Kaiser, Knickerbocker, Lentz, London, Maher, Mosser, Nair, Schwarz, Seabold, Sigman, Spragins, Ventling and Wapnir.

PED 100. ELECTIVE.

First year. The opportunity for freshman students to volunteer to follow a newborn from birth through four years of age is provided.

PED 101. INPATIENT CLERKSHIP.

Third year. Students are assigned as clinical clerks for a period of six weeks to the pediatric wards of the University of Maryland, Mercy and Baltimore City Hospitals. They are responsible for patient care and work with house staff and instructors in planning the workup and treatment of assigned patients. Ward rounds are attended daily. The students are assigned tutors who meet with their students two times weekly.

Regularly scheduled conferences are held covering x-ray diagnosis, cardiology, journal review, chart conferences, neonatal mortality, case discussions and metabolic diseases. Discussions cover concepts of the pathophysiology and theraputic management of pediatric patients. The total impact of the illness on the child and family complex is emphasized.

PED 102. AMBULATORY PATIENT CLERKSHIP.

Fourth year. Students may select from a variety of experiences ranging from inpatient junior internships to ambulatory care of children in community pediatric centers or the pediatric clinics in the outpatient departments of several hospitals. These assignments are determined by individual interview between the student and a faculty member.

PED 103. LABORATORY RESEARCH PROBLEMS IN PEDIATRICS.

Second year. Elective. Students will be required to set up laboratory procedures to be used by them in the study of a research problem. Problems will be selected in order that a fairly complete project can be done by the students in their elective time over a period of one year. Emphasis will be made on the accuracy and reliability of standard techniques, as applied to the detailed analysis of their research problem.

PHYSIOLOGY

Professors: Blake (HEAD OF DEPARTMENT), ADELMAN, BARRACLOUGH AND SHOCK.

Associate Professors: Fajer, Glaser, Karpeles, Merlis, Pinter and Solo-Mon.

Assistant Professors: GOLDMAN, JURF AND GREISMAN.

Physiology 101 consists of lectures, laboratory work, and conferences running throughout the first year. The lectures cover principles of physiology. Laboratory work and the conferences thereon include an introductory series of exercises and demonstrations to acquaint students with contemporary techniques in this discipline after which time students select an advisor from one of the medical school departments and continue their laboratory work on a tutorial basis.

Neurosci. 101 correlates the study of neuroanatomy with neurophysiology and introduces related clinical material in lecture and laboratory work.

Lectures in abnormal human physiology are presented in the second year. Advanced seminars (see below) and/or research in special areas of physiology



are open to interested students who have completed the first year.

Combined M.D.-M.S. and M.D.-Ph.D. programs, requiring additional course work and original research, are offered for highly qualified students.

FOR GRADUATE STUDENTS

The several graduate programs in Physiology are designed for students oriented toward careers in mammalian physiology, biomedical engineering, gerontology, or academic medicine. Background in mathematics, physics, and chemistry is considered essential and ordinarily only those wishing to complete the requirements for a Ph.D., M.D.-Ph.D., or M.D.-M.S. degree will be considered. The program in gerontology is given in collaboration with the Gerontology Division of the National Institute of Child Health and Human Development at the Baltimore City Hospitals. The M.D.-Ph.D. and M.D.-M.S. programs are given in collaboration with the School of Medicine. Interested students are invited to write for additional details.

Graduate students majoring in physiology will ordinarily be expected to take *Physiology 201* and *Neurosci. 201* and those advanced seminars that are pertinent to their areas of interest. Additional course work in anatomy, biophysics, biochemistry, pharmacology, mathematics, and/or physics complete the minor requirement. Foreign language examinations are required for Ph.D. candidacy and original research and a dissertation for attainment of the degree.

Advanced courses offered by the Physiology Department include:

Physiology 201 (3, 7) Similar to Physiology 101 but with additional reading and conference work.

Neurosciences 201. (3, 3) Similar to Neurosci. 101 but with additional reading and conference work.

Physiol. 202. Cardiovasvular Physiology. (2)

Physiol. 203. Pulmonary Physiology. (2)

Physiol. 204. Physiological Techniques.

Physiol. 205. Physiology of Kidney and Body Fluids. (2)

Physiol. 206. Seminar. (1)

Physiol. 207. Physiology of the Central Nervous System. (2) Physiol. 208. Physiology of the Autonomic Nervous System. (2)

Physiol. 209. General Physiology. (3)

Physiol. 210. Physiological Control Systems. (3)

Physiol. 211. Sensory Physiology. (2)

Physiol. 212. Physiology of Reproduction. (2)

Physiol. 213. Seminar in Neuroendocrinology. (2)

Physiol. 214. Comparative Adrenal Physiology. (2)

Physiol. 399. Research.

PREVENTIVE MEDICINE AND REHABILITATION

Professors: Entwisle (Head of Department), Henderson, P. Richardson and Tayback.

Associate Professors: Barrett, Dowling, Hellman, Mahoney and Schonfield.

Assistant Professors: Gessner, Hebel, Markush, Reed, A. Richardson and Stewart.

PREV MED 164. INTRODUCTION TO BIOSTATISTICS. (45)

Elective for graduate students in the School of Medicine. The fundamental concepts of statistical methodology and its mathematical foundation are discussed along with practical application in the fields of biology and medicine. The topics to be covered include: probabilistic models, some application of probability, sampling distribution, hypothesis testing, experimental design, and analysis of variance.

PREV MED 101. BIOSTATISTICS. (36)

First year, first semester. Each weekly two hour session is divided into a lecture period followed by small group sessions used for review, discussion or practical exercises. This series of lectures and small group sessions illustrates the basic methods of statistical analysis and demonstrates their use in several areas of clinical practice and investigation. The course will cover the following statistical subjects: concepts of measurement in medicine, analytical methods for quantitative and qualitative data, life table method and application to medicine, age adjustment and bio-assay.

PREV MED 102. EPIDEMIOLOGY AND COMMUNITY MEDICINE. (62)

Second year, two hours each week. Patterns of illness and medical care are discussed, and the role of a variety of health agencies is reviewed. The basic methods and application of epidemiology are reviewed and illustrated by consideration of certain groups of chronic diseases.

PREV MED 103. Applied Preventive Medicine and Rehabilitation I. (48) During third year the student is assigned a patient with a chronic disease and

follows this patient and the patient's family, the student serving as a health advisor. During this year of practical experience, the student studies in depth the medical care and management of his patient, including the use of community resources, and the epidemiology of the specific chronic diseases which his patient manifests. This family-based program gives the student an opportunity to understand comprehensive medical care.

In addition, the student participates in small group sessions in the area of rehabilitation, including comprehensive evaluation services, medical care and chronic disease. Part of the student's assignment is at Montebello State Hospital.

PREV MED 104. Applied Preventive Medicine II. (18)

Fourth year. Each student participates in four seminars devoted to broad consideration of the application of preventive medicine in general and specialty practice.

DIVISION OF PHYSICAL MEDICINE AND REHABILITATION

Doctors: P. Richardson (Head of Division), Dowling, Fleischer, Gessner, Mahoney, A. Richardson and Staff.

The Division participates in Preventive Medicine 103 where the students receive lecture demonstrations and participate in small group discussions in the application of physical medicine procedures and rehabilitation techniques in the general practice of medicine.

The Division also participates in the Physical Diagnosis Course (ID. 3) with instruction in the evaluation of motor performance of the extremities.

Summer fellowships are available for research or clinical training in Physical Medicine and Rehabilitation.

PSYCHIATRY

Professors: Brody (HEAD OF DEPARTMENT), BARTEMEIR, CAPPON, FARINHOLT, GRENELL, KUBIE, MONROE, POPE AND RAFFERTY.

Associate Professors: Ainsworth, Anderson, Balis, Derbyshire, Hartz, HUFFER, JACOBSON, LISANSKY, ROSEMAN, TUERK, WEINTRAUB AND YOUNG. Research Associate Professors: FINDLEY, FRIEDENBERG, GOLDIAMOND, RAHER,

SIEGMAN AND WISE.

Assistant Professors: Albright, Ascher, Blumberg, Boslow, Bradford, G. Brown, Clemmens, Cohen, Davis, Donner, Eichler, Faillace, FOSTER, GLASER, GORWITZ, A. GROSS, H. GROSS, M. GROSS, HOLDEN, HUNT, JANTZ, KOHLMEYER, KRAFT, LASSON, LEVIN, LEVY, MACKIE, MAGRUDER, MAXWELL, McCue, Modarressi, Mott, Mourat, Noshpitz, Ozer, Rae-GRANT, RAPPEPORT, REED, ROBINSON, SAKLES, SAVAGE, SCHLEIFER, SCHNAPER, SCHONFIELD, SCHWEIG, SHOCHET, SILA, TAYLOR, THOMPSON, ULGUR, VIDAVER, WHITMARSH AND WILHELMSEN.

Research Assistant Professors: SHAFFER AND WARTHEN.

Instructors: Becker, Burt, Carson, Cicci, Clower, Cohn, Cowen, Croce, CHACKO, R. DAVIS, DERBIN, FIEDLER, FINN, FITZPATRICK, FORD, FREINEK, GOLDMANN, GORDON, GRAY, G. GROSS, GUTCHES, HAGE, HAMILTON, HARRIS, HITCHMAN, HOLDER, HULFISH, JOHNSTON, KLOOR, LAI, LAMB, Lewis, Lurie, Martin, McElroy, McNelis, Nabors, Oleynick, Oppen-HEIMER, PHILLIPS, A. POPE, SACK, SAIDEL, SCHAMP, SCHULTZ, G. SMITH, STYRT, THISTEL, TRATTNER, VON MUEHLEN, WEINSTEIN, WEIR, WEISMAN AND D. WEISS.

Research Associate: BLASS.

Lecturers: M. KRAMER, KURLAND AND NOVEY.

PSY 101a. INTERVIEW APPRAISAL.

(Thursday afternoons, 1st semester.) Dr. Brody, Dr. Derbyshire and Staff.

This course is devoted to providing future physicians with a fundamental knowledge of human relationships. Principals and concepts of role theory, interpersonal relations, and psychodynamics provide a frame of reference within which medical students examine transactional behavior. Each week a physicianpatient interview is the medium providing students an opportunity to observe and critically analyze a transaction. With the leadership of a staff psychiatrist, students form small groups after each interview. The groups focus upon observing the transactional process. Lectures prior to each patient interview and assigned readings provide the substantive material with which students analyze human interactions.

PSY 101B. HEALTH, ILLNESS, AND HUMAN BEHAVIOR.

(Thursday afternoons, 2nd semester.) Dr. Derbyshire, Dr. Hunt, and Staff.

Behaviors associated with illness and health are incorporated into all social systems. Anthropologic, psychologic, and sociologic concepts for examining and understanding the social behavior of health and illness are stressed. Of central concern is the life cycle of families. An examination of the family life process through developmental tasks provides an opportunity for viewing health and illness in relation to its social system, role theory, culture, motivation, socialization, values, attitudes, perception, reference groups, and institutions.

PSY 101c. LIFE SITUATIONS, EMOTIONS, AND ILLNESS. .

(Thursday afternoons, 2nd semester.) Dr. Lisansky, Dr. Derbyshire, and staff. This course develops a frame of reference for viewing illness of all kinds, emotional and physical, from the study of adults with a wide variety of medical problems. Much of the material is developed during the course of classroom interviews with patients from the medical and surgical wards. Important issues include: reactions to stress, and situational and social factors in disease. Emphasis is placed upon observing, understanding, and evaluating the personal and social factors in the disease process, in treatment, and in prevention.

PSY 102. Introduction to Clinical Psychiatry, Psychopathology and Psychotherapy. (60)

Dr. Monroe and staff.

This course, Tuesday and Thursday morning during the first semester and Thursday morning during the second semester, presents to the sophomore medical students, by lectures, films, interviews, and discussions, a foundation in psychopathology. Each of the reaction types are discussed with signs and symptoms. There is also a discussion of basic defense mechanisms. Psychopathology is also correlated with effects of culture, group process, and their relationship to the therapeutic task which will be part of the doctor-patient relationship.

PSY 103. PSYCHIATRIC CLINICAL CLERKSHIP.

(Third year, 3 weeks.) Dr. Weintraub, Dr. Huffer, Dr. Lisansky, and Dr. Wilson.

Students are assigned to various clinical areas. Under the direction of the Liaison Division staff psychiatrists, the students work with medical-surgical patients, learning the principals and techniques of interviewing, doctor-patient relationship and supportive psychotherapy. On the wards of the Inpatient Division, the students are indocrinated into the mileu approach in the treatment of psychiatric patients. In addition, they are responsible for the detailed history, examination, and treatment of newly admitted psychiatric patients, working closely with the psychiatric assistant residents. The importance of family-social influences is stressed. Several students can elect to have psychosomatic medicine as their main focus, while others spend their clerkship time at the Spring Grove State Hospital.

PSY 104. ADVANCED PSYCHIATRIC CLINICAL CLERKSHIP.

(Fourth year—4 weeks). (Dr. Gross, Dr. Rafferty, and Staff) A clinical clerkship is offered in the outpatient clinics of the Psychiatric Institute for one month. The students elect either the adult or children's programs. Emphasis is on the clinical management, diagnosis, interviewing technique, and psychotherapy. Related theoretical seminars and intensive personal supervision provide support to the clinical experience.

RADIOLOGY

Professors: Dennis (Head of Department) and Davidson.

Associate Professors: HEARN, KNOX, LYON AND ROBINSON.

Assistant Professors: REISS, SEYDEL AND WIZENBERG.

Instructors: Allen, Hyman, Navarro, Thomas, Threatt and Wallop.

RAD 101. RADIOLOGIC ANATOMY. (12)

First year, first semester. A correlated course is given in conjunction with the Department of Anatomy. This course consists of nine lecture-demonstrations devoted to the skull, chest, gastrointestinal tract, genitourinary tract, the spine, and joints. Not only is the normal anatomy shown, but the radiologic aspects of a few pathologic processes are also shown for emphasis and correlation.

RAD 103. RADIATION THERAPY ORIENTATION. (5)

Third year This series of five lectures is given to the whole third year class to present the basis of radiation therapy. In the first lecture, the basic principles

of radiotherapy and the present and future role of radiotherapy of malignant tumors is presented. The second lecture is devoted to the principles of radiobiology, radiophysics and radiation protection. The last three lectures deal with groups of tumors that are curable with ionizing radiation with a discussion of the principle indications, management and results of radiotherapy in each of these groups.

RAD 104. RADIOLOGIC ORIENTATION I. (33)

Third year. A series of lecture-demonstrations are given to small groups of students at the Baltimore City Hospital, Mercy Hospital, and the University Hospital. An attempt is made to cover the roentgen studies of all systems of the body with demonstrations of the more common lesions encountered in each system. At Baltimore City Hospital, twelve lecture-demonstrations are given on the chest, the genitourinary tract and metabolic bone diseases, while at Mercy Hospital, three hours are devoted to the arthritides and bone tumors. At the University Hospital, eighteen additional lecture-demonstrations are devoted to the lungs, gastrointestional tract, heart, and skull.

RAD 105. RADIOLOGIC ORIENTATION II. (60)

Fourth year. Students in groups of five are assigned full time for a period of two weeks to the Diagnostic Division of the Department of Radiology. On alternate mornings, a student observes chest and gastrointestinal fluoroscopy, interviews outpatients and correlates the clinical and roentgen findings on these patients and attends film reading sessions with the staff radiologists. The students are taught the basic principles of fluoroscopy and are assigned a few patients with pulmonary and cardiac lesions to fluoroscope. Recommended reading assignments are made and the students spend the afternoons studying a select group of teaching cases which are correlated with these reading assignments. Daily diagnostic conferences are held with the students, and at this time the interesting cases of the day are presented. They also attend joint conferences held with the department of Pediatrics, and the Division of General and Thoracic Surgery.

SURGERY

Professors: BUXTON (HEAD OF DEPARTMENT), ARNOLD, AUSTIN, BLANCHARD, COWLEY, HULL MANSBERGER, YEAGER AND YOUNG.

Associate Professors: Adams, Attar, Flotte, Galleher, Hubbard, Morgan, Mosberg, Schirmer, Schmeißer, Steenburg and Thompson.

Assistant Professors: BOWIE, CAMPBELL, FLETCHER, GOVATOS, JOHNSON, MAYS, MECH, OLLODART, SIWINSKI, WALDER AND STAFF.

SURG 101A. SURGICAL SPECIALTY LECTURES. (42)

Third year. This is a series of lectures wherein the surgical discussions center around the problems of Otorhinolaryngology, Thoracic Surgery, Neurosurgery, Orthopedic Surgery, and Urologic Surgery.

SURG 103. OUTPATIENT CLERKSHIP IN SURGERY. (286)

Third year. One-fourth of the third year class is assigned to the Department of Surgery each quarter of the school year. Students are assigned to the Outpatient Department for the examination and supervised care of patients in the General Surgical, Orthopedic, Urologic, and ENT Clinics. One-third of this quarter is spent at Mercy Hospital or Baltimore City Hospitals. On this latter rotation experiences are offered in Orthopedic Surgery, ENT and Urology. Whereas for Mercy Hospital rotation these are at University Hospital. Students are assigned in rotation as clinical clerks at night in the Emergency Room.

SUMMER FELLOWSHIPS

Fellowships are available each summer for a period of ten weeks in the Surgical Research Laboratory. Both sophomore and junior students are eligible. Investigative problems related to these services will be undertaken under the guidance of members of the Surgical Staff, and under the direct supervision of Associate Professor Mansberger.

DIVISION OF GENERAL SURGERY

Doctors: Adam:, Bowie, Buxton, Flotte, Govatos, Hubbard, Hull, Johnson, Mansberger, Ollodart, Siwinski, Steemburg, Stewart, Walder, Yeager and Staff.

SURG 103A

This is the student's introduction to an office-type surgical practice in that he undertakes the supervised care of patients in the Surgical Dispensary. General discussions related to problems presented by these patients are given by the Surgical Staff. The introduction to specific surgical techniques in examination and treatment of patients is undertaken. This course is given at both University and Mercy Hospitals, and Baltimore City Hospitals. Students are assigned to the Emergency Room during this period.

SURG 104A.

Senior students are assigned to patients on the surgical wards in the University Hospital and at Maryland General Hospital. They are responsible for the physical examination, history, and certain laboratory tests as required by the patient's disease. They participate in the active care and treatment of patients. Rounds are held daily by attending staff and frequent student conferences are conducted.

DIVISION OF NEUROSURGERY

Doctors: ARNOLD, THOMPSON AND STAFF.

SURG 104B.

Senior students assigned to this division act in the capacity of student interns. The students are closely integrated with the House Staff and are assigned sufficient patients so that comprehensive experience in the diagnosis and treatment of neurosurgical problems is obtained. Instruction is through ward rounds and informal discussions. Wednesday mornings are devoted to clinical, x-ray, and neuropathologic conferences.

DIVISION OF ORTHOPEDIC SURGERY

Doctors: Austin (Head of Division), T. Morgan, R. Lapidario, Schmeisser, Tansey and Staff.

SURG 103C.

Junior students are assigned to this division in the Outpatient Department at University Hospital, Baltimore City Hospitals, and Mercy Hospital. Patients are seen for diagnosis and postoperative care. Instruction is given in the application of plaster casts and in the ambulatory management of orthopedic problems. Occasion is given to instruction in the Physical Therapy of patients with orthopedic disease.

SURG 104C.

Senior students are assigned patients both on the surgical wards and in the Emergency Room. They participate in the care of these patients, and are given instruction in the application of traction and plaster casts. Frequent ward rounds are held at the Kernan Hospital for Crippled Children. An Amputee Training program is active.

DIVISION OF OTOLARYNGOLOGY

Doctors: Blanchard (Head of Division), Engnoth, Fletcher, Hammond, Natale, O'Rourk, Stram and Staff.

Mercy Hospital: Drs. Gerlach and Isaacs.

SURG 103E.

In a series of six periods of four hours, in the Outpatient Otolaryngology Clinic, junior students are individually instructed in the techniques of the examination of the ears, nose, and throat. One hour of basic audiological technique is presented to each group by an audiologist, one hour of introductory speech pathology is presented by a speech pathologist.

SURG 104E.

An advanced period of elective study with emphasis on diagnosis and treatment is available to approximately one-fifth of the senior class students each year as an alternate elective surgical specialty for one month's duration. In the Outpatient Department diagnostic problems are presented at conferences with the staff department head twice each week and thoroughly reviewed in the light of current practice. Two sessions each week are available to the student to assist in the operating room and two sessions each week are available in the bronchoesophagology clinic. Each student is responsible for evening emergency calls on Ear, Nose, and Throat and examination of the patients admitted on the service. Daily ward rounds are carried out with the students.

DIVISION OF THORACIC SURGERY

Doctors: Cowley (HEAD OF DIVISION), ATTAR, McLaughlin, Miller and Staff.

SURG 104F.

Senior students participate in the care of these patients in the operating rooms and on the wards of University, Mercy and Mt. Wilson Hospitals. In addition, they receive instruction in diagnostic bronchoscopy, esophagoscopy, cardiac catheterization, angiocardiography, and pulmonary functions studies.

DIVISION OF UROLOGIC SURGERY

Doctors: Young (HEAD OF DIVISION), CAMPBELL, GALLEHER, MAYS, SCHIRMER AND STAFF.

SURG 103D.

Instruction is given to junior students in this division on the diagnosis of urologic disease of both men and women. The general aspects of instrumentation are discussed and the roentgenologic evidence of urologic disease is emphasized. One section of these students receive their instruction at Baltimore City Hospitals.

SURG 104D.

Students are assigned patients in the University Hospital wards. Further instruction is given in diagnosis and instrumentation of these patients and in the x-ray diagnosis of urologic disease.

Continuing Education Courses

THE COMMITTEE ON CONTINUING MEDICAL EDUCATION

E. T. LISANSKY, M.D., Chairman and Director

MRS. ELIZABETH B. CARROLL, Executive Secretary

JOHN H. MOXLEY, III, M.D., DEAN, Ex Officio

GEORGE H. YEAGER, M.D., Director of Hospital, Ex Officio

RAYMOND L. CLEMMENS, M.D.

THOMAS B. CONNOR, M.D.

VIRGINIA HUFFER, M.D.

ARLIE R. MANSBERGER, JR., M.D.

EDMUND B. MIDDLETON, M.D.

EDMUND B. MIDDLETON, M.D.

ERLAND NELSON, M.D.

HOWARD F. RASKIN, M.D.

LEONARD SCHERLIS, M.D.

WILLIAM L. STEWART, M.D.

THEODORE E. WOODWARD, M.D.

In an effort to assist the practicing physician to keep abreast of the newer developments in the science and practice of medicine, the Continuing Medical Education Committee continues to offer courses in a variety of subjects. At this

writing, it is planned to present on our campus, courses as follows:

COURSE	DURATION
Advances in Medical Science	2 hrs./day, 1 day/week, 12 weeks
Basic Electrocardiography	1 day
Clinical Anatomy	3 hrs./day, 2 days/week, 15 weeks
Clinical Cardiology	1 day
Dermatology	1 day
Diabetes	1 day
Eye, Ear, Nose, and Throat	1 day
Family Counseling	3 days
Gynecology	1 day
Hematology	1 day
Infectious Diseases	4 days (In association with
	American College of Physicians)
*In-Service	1-4 weeks
Dermatology, For In Tg. cr	4 days (In association with
5,7	American College of Physicians)
Neuropathology for Pathologists	5 days
Obstetrics	1 day
Psychiatry for Internists	5 days (In association with
	American College of Physicians)
Surgical Physiology	1 day
## ! TOTAL CONT.	

*VISITING TRAINEESHIP IN-SERVICE PROGRAM

Various departments and sub-divisions of the University of Maryland School of Medicine are open to interested physicians through a Visiting Traineeship

In-Service Program" designed to expose the practicing physician to the most current concepts in the practice of medicine, surgery and their various

specialties.

This program is highly flexible and designed for each enrollee individually. The enrolled physician will participate in the department's routine scheduled program of Rounds, Clinics and Conferences. No alteration in the department routine will be made to formalize the program into a specific postgraduate course. The enrollee will, however, be the guest of the division or department with which he affiliates. Ample allowance of time be made for collateral reading in the privacy of the library and for attendance at Chief of Service Rounds, Resident Rounds and Grand Rounds, if desired.

Each program is individually designed where possible. Such programs are formulated after a personal interview with the Director, or Assistant Director, of the Committee on Continuing Medical Education, and the Department or Division Head under whose supervision the trainee or enrollee will work. However, if a personal interview is inconvenient because of geographical dis-

tance, applications will be considered by appropriate correspondence.

The Visiting Traineeship In-Service Program allows for cross-disciplinary visiting, or the entire period may be allocated to one specific subject or medical problem. This program, therefore, offers a variety of possibilities that may

allow a profitable and rewarding experience.

Inasmuch as this catalog material is being prepared in 1968 and is intended to cover activities through 1971, it is possible that new courses may be devised and others deleted during the intervening period. Please contact the Continuing Education Committee of the University of Maryland School of Medicine for further information regarding postgraduate courses.

Department of Physical Therapy

SCHOOL OF MEDICINE
UNIVERSITY OF MARYLAND

PHYSICAL THERAPY

The Department of Physical Therapy of the School of Medicine administers a 4 year curriculum leading to a Bachelor of Science Degree. The curriculum consists of 139 semester hour credits: 63 in liberal arts and sciences, 4 in health and physical activities and 72 in professional courses. The freshmen and sophomore students are registered on the College Park or Baltimore County Campus and the junior and senior students on the Baltimore City Campus. Qualified students from other accredited universities or colleges who have successfully completed appropriate courses may be admitted directly to the professional program at Baltimore.

The educational program is accredited by the Council on Medical Education of the American Medical Association in collaboration with the American Physi-

cal Therapy Association.

For detailed information refer to the BULLETIN issued by the Department of Physical Therapy. This can be obtained by writing to the Department of Physical Therapy, School of Medicine, 520R West Lombard Street, Baltimore, Maryland 21201.

FACULTY

LATIMER, RUTH M., Associate Professor and Head of the Department; B.S., University of Richmond, 1945; C.P.T., U.S. Army Hospital, 1946; M.S., Medical College of Virginia, 1952.

BUCA, Josephine T., Assistant Professor; B.S., Loyola University, 1949; C.P.T., University of Texas, 1947; M.A., University of Maryland, 1967.

GLICKMAN, LESLIE, Instructor; B.S. & C.P.T., University of Maryland, 1964.

GLIDDEN, DOROTHY, Instructor; B.S., University of Wisconsin, 1942; C.P.T., U.S. Army Medical School, 1945; M.P.H., University of North Carolina, 1965.

KARPELES, Leo, Assistant Professor; B.S., University of North Carolina, 1941;

M.D., University of Washington, 1955.

KENDALL, FLORENCE, Lecturer; B.S., University of Minnesota, 1930; C.P.T., Walter Reed General Hospital, 1932. LENN, KAYE, Instructor; B.A., Montana State University, 1951; C.P.T., Medical

College of Virginia, 1952. NOVELL, JOAN, Instructor; B.S., University of Connecticut (major in Physical

Therapy), 1955.

PAISLEY, KENNETH, Instructor; B.S., Bloomsburg State College, Pa., 1957; C.P.T., University of Pennsylvania, 1958; M.P.H., University of North Carolina, 1966; M.S., University of Scranton, Pa., 1967.

PAYTON, OTTO, Instructor; (Dept. of Preventive Medicine & Rehabilitation);

B.S. & C.P.T., University of Kansas, 1956; M.S., Ed., University of Indiana, 1964.

PFEIFFER, Boyd, Instructor; B.A., Gettysburg College, 1960.

SHOTTER, LILLIAN, Assistant Professor; B.S., Madison College, Va., 1933; C.P.T., New York University, 1935; M.A., Columbia University, 1950.

SNYDER, Joel, Assistant; B.S., University of Maryland, 1964.

Members of other departments of the Medical and Nursing Schools present the medical, surgical and nursing lectures assisted by the faculty of the Department of Physical Therapy.

Clinical education is conducted at the University of Maryland Hospital and

other clinical affiliations by the academic and clincal faculty.

PHYSICAL THERAPY CURRICULUM

FRESHMAN YEAR

SEM	ESTER CREDI	T HOURS
Course Title	FIRST	SECOND
ENG 1—Composition	3	
PHIL 1—Introduction to Philosophy (or course in Fine Arts)		3
SPEECH 1—Public Speaking		3
CHEM 1, 3—General Chemistry	4	4
MATH 10, 11—Introduction to Mathematics		3
SOC 1—Introduction to Sociology		
PSYC 1—Introduction to Psychology		3
PT 10, 11—Physical Therapy Orientation		1
<u> </u>		
Academic Hours	14	17
PE—Physical Activities		1
HLTH 5—Science & Theory of Health		
indian bottom of investment in the interest in		
Total Hours	17	18
2011 220110	- 1	10
SOPHOMORE YEAR		
ENG 3, 4—World Literature	3	3
PHYS 10, 11—Fundamentals of Physics	_	4
ZOOL 1—General Zoology		· ·
ZOOL 2—The Animal Phyla		4
PSYC—Choice of 2 psychology courses		3
		3
HIST 21 or 22—History of the U.S.		
HIST 41 or 42—Western Civilization		3
Total Hours	17	17

For course description refer to the Bulletins of the Colleges of Arts and Sciences or Physical Education, Recreation and Health, as appropriate.

Students transferring from a regionally accredited college for admission to the junior year must have completed 65 academic semester hour credits of courses comparable to those listed above with 2 S.H.C. of substitution for P.T. 10, 11 and a year of physical education and health (4 S.H.C.).

JUNIOR YEAR

SEMEST	ER CREDI	T HOURS
Course Title	FIRST	SECOND
ANAT 101, 102—Human Anatomy	5	5
CM 101—Clinical Medicine I	2	
CM 102—Clinical Medicine II		2
PATH 102—Pathology		3
PHYSIOL 101—Human Psysiology	4	
PT 101—P.T. Theory & Practice I	3	
PT 102—P.T. Theory & Practice II	_	2
PT 103—Rehabilitation I	1	_
PT 104—Nursing Procedures Related to Physical Therapy	•	1
PT 105—Professional Orientation & Ethics	1	•
PT 106—Therapeutic Exercise I		2
PT 107, 108—Clinical Education I, II	1	1
1 107, 100—Chinear Education I, II	1	1
Total Hours	17	16

SUMMER (6 weeks)

PT 110—Clinical Education III	4	4
SENIOR YEAR		
ANAT 151—Biomechanics & Kinesiology CM 151, 152—Clinical Medicine III, IV PHYSIOL 151—Applied Physiology PT 151—Evaluation Procedures PT 153—Therapeutic Exercise II PT 154—Rehabilitation II PT 155—P.T. Theory & Practice III PT 156—Public and Community Health PT 157—Clinical Education IV PT 158—Clinical Education V PT 160—Biostatistics & Research PT 162—Current Literature	1	1 2 2 6 3 1
PT 164—Administration Total Hours		16

Description of Courses

PHYSICAL THERAPY

Numbers in parentheses indicate semester hour credits and approximate clock hours.

PT 10, 11. Physical Therapy Orientation. (1,1-32)

General introductory course to the profession of physical therapy and the relationship to other health professions. Orientation of the student is done by visual aids, discussion and visits to physical therapy departments.

ANAT 101, 102. Human Anatomy. (5,5-288)

Prerequisites, zoology 8 hours. The student is given an opportunity to develop a basic concept of the morphology of the human body through a correlation of histology gross anatomy and neuroanatomy. Dissection of the human body, on a regional basis, including the brain is required. Three hours of lecture and six hours of laboratory a week.

CM 101. CLINICAL MEDICINE I. (2-32)

Prerequisites, psychology 9 hours. Lectures in psychiatry (22 hours) with special emphasis on psychosomatic disorders, personal and social factors affecting the handicapped and patient-therapist interactions. Lectures in dermatology (10 hours) including the anatomy and function of the skin, symptomatology, and treatment of skin diseases.

CM 102. CLINICAL MEDICINE II. (2-32)

Prerequisite, Physiol. 101. Continuation of C.M. 101 with lectures in medicine to include the symptoms and treatment of patients with involvement of the pulmonary, cardiovascular, genitourinary, gastrointestinal, endocrine and reproductive systems.

PATH 102. PATHOLOGY. (3-48)

Prerequisites, Anat. 101 and Physiol. 101. This course includes the study of the basic principles of disease and injury with their application to the various systems of the body. An autopsy and pathological specimen are observed.

PHYSIOL 101. HUMAN PHYSIOLOGY. (4-112)

Prerequisites, zoology 8 hours and chemistry 8 hours. The lectures cover the major fields of physiology, including the following areas: central and peripheral nervous systems, neuromuscular apparatus, heart and circulation, respiration, kidney and body fluids, gastro-intestinal tract, endocrines and reproduction. Three hours of lecture, three hours of laboratory and one hour conference a week.

PT 101. PHYSICAL THERAPY THEORY AND PRACTICE I. (3-96)

Manipulative Procedures (48 hours)

Students are taught to investigate by means of palpation of topographical anatomy those areas responsible for restricting range of motion or inhibiting

functional activity and to apply appropriate manipulative soft-tissue techniques to reduce pain, release contractures of muscles and scar tissue adhesions. The theory and physiological effects are discussed. One hour of lecture and two hours of laboratory a week.

Hydrotherapy (48 hours)

The physics of water and the principles of thermometry are reviewed. The physiological effects of local and general application of heat and cold on the human are studied both didactically and in the laboratory. Procedures which are taught include application of hot and cold packs, whirlpool, Hubbard tank, moist air, paraffin as well as principles and methods of underwater exercise. The therapeutic indications and limits of each of these procedures are stressed. One hour of lecture and two hours of laboratory or clinical practice a week.

- PT 102. Physical Therapy Theory and Practice II. (2-4)
 Prerequisite, physics 8 hours. This course includes lectures and practice in
 the administration of infrared, ultraviolet, diathermy, microthermy and ultrasonics. The physics and physiological effects are reviewed thereby enhancing
 the student's ability to make judgment in the therapeutic application of the
 procedures. Two hours of lecture and two hours of laboratory or clinical
 practice a week.
- PT 103. REHABILITATION I. (1-32)
 A study of the basic philosophy underlying comprehensive care of the physically handicapped, its principles and practices. The essential role of the physical therapist in the total treatment program is stressed. An introduction to functional training, ambulation and the application of assistive and supportive devices is included. One hour of lecture and one hour of laboratory or clinical practice a week.
- PT 104. Nursing Procedures Related to Physical Therapy. (1-32)
 This course, taught by a nurse and a physical therapist, is designed to cover the cooperative relationship between the two professions in patient care to include supportive and aseptic bandaging, isolation procedures, oxygen therapy, cardiopulmonary resuscitation, drainage, first aid and vital signs. One hour of lecture and one hour of laboratory or clinical observation a week.
- PT 105. PROFESSIONAL ORIENTATION AND ETHICS. (1-16)

 A broad interpretation of the qualifications of a profession and a basic introduction to ethics is presented. The history and development of physical therapy as a profession is reviewed. Particular emphasis is placed on the student's understanding of and development of professional and ethical behavior.
- PT 106. THERAPEUTIC EXERCISE I. (2-64)

 This course covers the history and scope of therapeutic exercise, patterns of movement and posture (normal and abnormal) and a study of developmental and physiological principles of purposeful graded exercises for the prevention and treatment of physical disabilities. One hour of lecture and three hours of laboratory or clinical practice a week.
- PT 107, 108. CLINICAL EDUCATION I, II. (2–96)
 Clinical observation and experience in patient care with emphasis on utilizing the procedures concurrently learned in other courses. Three hours a week.
- PT 110. CLINICAL EDUCATION III. (4-210)
 A continuation of P.T. 108. The student has the opportunity to become more proficient in applying to patients the procedures learned in the first year and to observe other procedures to be learned in the second year. The student has six weeks of full-time (approximately 35 hours a week) clinical experience, spending three weeks at two different hospitals or agencies.

ANAT 151. BIOMECHANICS AND KINESIOLOGY. (3-96)

Prerequisites, Physics 8 hours, Anat. 101, 102. A detailed study of motion in the human body with emphasis on its mechanical and functional aspects. It is designed to include observation and analysis of movement as it occurs in man under both normal and pathological conditions. Two hours of lecture and four hours of laboratory a week.

CM 151, 152. CLINICAL MEDICINE III, IV. (3, 1-64)

A continuation of C.M. 102, with 16 hours of lecture in each of the specialities—surgery, pediatrics, neurology and orthopedics. The symptoms and treatment of patients with conditions most frequently referred to the physical therapists are stressed.

PHYSIOL 151. APPLIED PHYSIOLOGY. (2-48)

Prerequisite, Physiol. 101. A study of physiology as it applies to exercise and its effects on the various systems, especially the cardio-pulmonary and neuro-muscular, in normal and pathological conditions. One hour of lecture and two hours of laboratory a week.

PT 151. EVALUATION PROCEDURES. (2-64)

The principles, techniques and interpretation of those testing procedures within the scope of the physical therapist are taught by discussion and practice with normal and abnormal individuals. These evaluations include manual and functional muscle tests; goniometric, girth and length measurements; postural analyses and tests of endurance and coordination and sensory acuity. One hour of lecture and three hours of laboratory or clinical practice a week.

PT 153. THERAPEUTIC EXERCISE II. (3-96)

The course, in continuation of P.T. 106, is designed to help the student develop skill in the correlation and application of the neurophysiological principles involved in the prevention and treatment of physical disabilities as well as to develop skill in planning, teaching and writing programs of exercise. Two hours lecture and four hours of laboratory or clinical practice a week.

PT 154. REHABILITATION II. (2-48)

A continuation of P.T. 103. Emphasis is placed on the multi-discipline approach to the special problems of the severely handicapped, such as patients with amputations and spinal cord lesions. Orthotics and prosthetics are studied including pre- and post-prosthetic evaluation and treatment. Two hours of lecture and four hours of laboratory or clinical practice a week for eight weeks. (Third quarter).

PT 155. Physicial Therapy and Practice III. (3-96)

This course includes the physics and the physiological effects of low frequency alternating and direct currents as applied percutaneously for therapeutic and diagnostic use. Electromyography and nerve conduction time are included. Two hours of lecture and four hours of laboratory or clinical practice a week.

PT 156. PUBLIC AND COMMUNITY HEALTH. (2-32)

The principles and methods of public health, including use of public health statistics, epidemiology, environmental health, community health organization and community health planning based on chronic disease epidemiology, are studied. The student has the opportunity to study other health related professions as well as social and health agencies to make him better able to contribute to comprehensive health care. Four hours of lecture a week for eight weeks. (Third quarter).

PT 157. CLINICAL EDUCATION IV. (1-48)

A continuation of P.T. 110, offering clinical experience in hospitals or with agencies utilizing advanced physical therapy procedures—especially those being taught in concurrent courses. Three hours a week.

PT 158. CLINICAL EDUCATION V. (6-376)

A continuation of P.T. 157. The students is given increased responsibility for patient evaluation, planning the treatment program and administration of physical therapy; thereby integrating all procedures for comprehensive patient care. For the first eight weeks (third quarter) 12 hours a week; for the second eight weeks (fourth quarter) full-time or approximately 35 hours a week. The student will spend four weeks with each of two different hospitals or agencies.

PT 160. BIOSTATISTICS AND RESEARCH. (3–48)

Prerequisite, mathematics 6 hours. A course designed to acquaint the student with the need for research in clinical physical therapy with an introduction to research design, mathematical tools and instrumentation. Each student will be expected to participate in a research project during the last semester. One hour of lecture and five hours of laboratory for eight weeks. (Third quarter).

PT 162. CURRENT LITERATURE. (1–16)

A course designed to assist the student in evaluating and abstracting current scientific literature in a selected area. Oral, visual and written communications are used for presentation. Two hours a week for eight weeks. (Third quarter).

PT 164. Administration. (1–16)

Students are given an opportunity to become acquainted with administration and supervision as it applies to the physical therapist. Human (interpersonal relations); intellectual (laws, methods and principles) and material factors (buildings, grounds, equipment) are discussed. Students are given an opportunity to practice written and oral communications, analyze and describe the duties of a physical therapist, write policies for a department and plan a physical therapy department. Two hours a week for eight weeks. (Third quarter).

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THE UNIVERSITY is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take the lead in expanding the intellectual horizons and the scientific frontiers, thus helping mankind to go forward—always toward the promise of a better tomorrow.

From "The State and the University" the inaugural address of President Wilson H. Elkins January 20, 1955
College Park, Maryland

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Baltimore, Maryland 21201

SCHOOL OF MEDICINE

1971-1973

UNIVERSITY OF MARYLAND BULLETIN



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The provisions of this publication are not to be regarded as an irrevocable contract between the student and the University of Maryland. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right, at any time, to ask a student to withdraw when it considers such action to be in the best interests of the University.

SCHOOL OF MEDICINE

1971-1973

UNIVERSITY OF MARYLAND



Medical School Calendar for 1971-1973

1971 SCHOOL CALENDAR

AUGUST	16-20		Reexaminations for Advancement
SEPTEMBER	8-10*		Orientation Programs and Registration
SEPTEMBER	13	Monday	First Day of Instruction—All Classes
NOVEMBER	24	Wednesday	Thanksgiving recess begins at 5 P.M. All Classes
NOVEMBER	29	Monday	Instruction resumes for all classes
DECEMBER	22	Wednesday	Christmas recess begins at 5 P.M. All Classes

1972 SCHOOL CALENDAR

JANUARY	3	Monday	Instruction resumes for all classes
JANUARY	10-21*		REGISTRATION & PAYMENT OF FEES BY MAIL—All Classes
JANUARY	17-21		Exam Week—Freshman Year
JANUARY	21	Friday	Last day of the First Semester
JANUARY	24	Monday	Beginning of Second Semester
FEBRUARY	21	Monday	Holiday—Washington's Birthday
MARCH	30	Thursday	Easter recess begins for 3rd and 4th Years at 5 P.M.
APRIL	4	Tuesday	Instruction resumes for 3rd and 4th Year Students
APRIL	10-14		Spring Vacation begins at 5 P.M., April 7, for 1st and 2nd Year Students
APRIL	17	Monday	Instruction resumes for 1st and 2nd Year Students
MAY	26	Friday	Instruction ends—All classes
MAY	29	Monday	Memorial Day
JUNE	2	Friday	Precommencement and Commencement— Baltimore Campus
MAY 30-JUNE	2		Examinations for 1st and 2nd Years

^{*}All students are to complete registration, including the payment of fees, on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE of \$20.00. The Office of the Registrar and the Comptroller are located in Howard Hall and are open for registration from 9:00 A.M. to 3:00 P.M.

1972 SCHOOL CALENDAR

Reexaminations for Advancement

AUGUST

APRIL

APRIL

MAY

MAY

14-18

9-13

16

25

28

Monday

Friday

Monday

SEPTEMBER	6-8*		Orientation Programs and Registration
SEPTEMBER	11	Monday	First Day of Instruction—All Classes
NOVEMBER	22	Wednesday	Thanksgiving recess begins at 5 P.M. All Classes
NOVEMBER	27	Monday	Instruction resumes for all classes
DECEMBER	22	Wednesday	Christmas recess begin at 5 P.M. All Classes
		1973 SCHC	DOL CALENDAR
JANUARY	3	Monday	Instruction resumes for all classes
JANUARY	8-19*		REGISTRATION & PAYMENT OF FEES BY MAIL—All Classes
JANUARY	15-19		Exam Week—Freshman Year
JANUARY	19	Friday	Last day of the First Semester
JANUARY	22	Monday	Beginning of Second Semester
FEBRUARY	19	Monday	Holiday—Washington's Birthday
APRIL	19	Thursday	Easter recess begins for 3rd and 4th Years at 5 P.M.
APRIL	24	Tuesday	Instruction resumes for 3rd and 4th Year

JUNE 1 Friday Precommencement and Commencement—

Baltimore Campus

MAY 29-JUNE 1 Examinations for 1st and 2nd Years

Students

Students

Memorial Day

Instruction ends—All classes

Spring Vacation begins at 5 P.M., April 6, for 1st and 2nd Year Students

Instruction resumes for 1st and 2nd Year

^{*}All students are to complete registration, including the payment of fees, on regular registration days. Those who do not complete their registration on the prescribed days will be charged a PENALTY FEE of \$20.00. The Office of the Registrar and the Comptroller are located in Howard Hall and are open for registration from 9:00 A.M. to 3:00 P.M.

KEY TO MAP

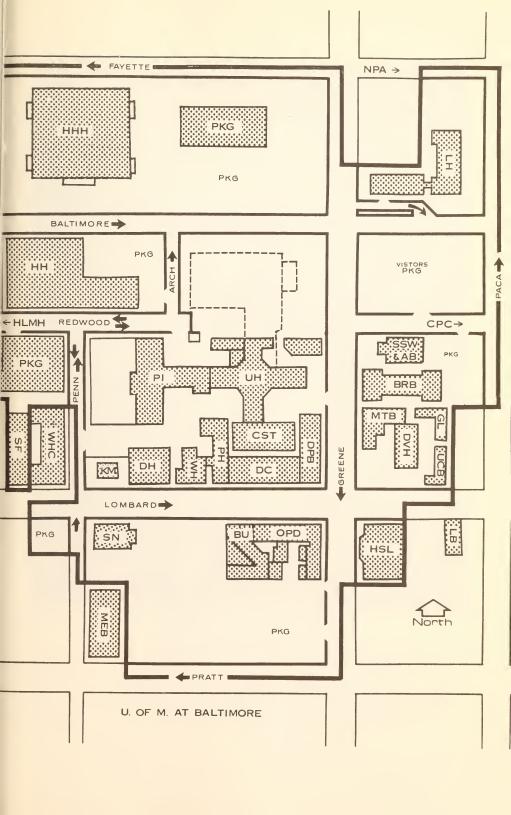
UNIVERSITY OF MARYLAND AT BALTIMORE

BRB—Bressler Research Building
20 S. Greene Street
BU—Baltimore Union
621 W. Lombard Street
CPC—Community Pediatric Center
412 W. Redwood Street
CST—Center for the Study of Trauma
22 S. Greene Street
DC—Dental Clinic
610-618 W. Lombard Street
DH—Dunning Hall
(School of Pharmacy)
636 W. Lombard Street
DPB—Dental-Pharmacy Building
32 S. Greene Street
DVH—Davidge Hall
(School of Medicine)
522 W. Lombard Street
GL—Gray Laboratory
520 Rear W. Lombard Street
HH—Howard Hall
660 W. Redwood Street
HHH—Hayden-Harris Hall (School of Dentistry)
666 W. Baltimore Street
LMH—H. L. Mencken House
1524 Hollins Street
HSL—Health Sciences Library
111 S. Greene Street
KM—Kelly Memorial Building
650 W. Lombard Street
LB—Lombard Building
511 W. Lombard Street
LH_Lane Hall
(School of Law)

500 W. Baltimore Street

H

MEB- Medical Examiner's Building 111 Penn Street MTB- Medical Technology Building 31 S. Greene Street NPA- National Pituitary Agency 210 W. Fayette Street OPD—Outpatient Department 601 W. Lombard Street PH- Parsons Hall (Nurses' Residence) 624 W. Lombard Street PI - Psychiatric Institute 645 W. Redwood Street PKG- Parking University Garage 701 W. Redwood Street PKG- Parking University Garage 633 W. Fayette Street RH— Redwood Hall (Community Mental Health Center) 721 W. Redwood Street SF- Storage Facility 710 W. Lombard Street SNB- School of Nursing Building 655 W. Lombard Street SSW & AB- School of Social Work & Administration Building 525 W. Redwood Street UCB- University College Building 520 W. Lombard Street UH- University Hospital 22 S. Greene Street WH- Whitehurst Hall (School of Nursing) W. Lombard Street WHC- Western Health Clinic 700 W. Lombard Street





JOHN H. MOXLEY III, M.D., Dean

Requirements for Admission

General Statement. The University of Maryland, in all its branches and divisions, subscribes to a policy of equal educational opportunity for peoples of all races, creeds and ethnic origins.

Policy on Admissions

Academic achievement, extra-curricular activities, personal characteristics, recommendations from college instructors or the premedical committee, scores on the Medical College Admissions Test, and personal interview are all carefully considered in evaluating an applicant. Academic achievement alone does not automatically insure acceptance as the Committee is equally concerned with personality, communication skills, character, integrity, motivation, and assessment of the individual as a potential physician. A letter of recommendation is required from the premedical committee. If there is no premedical committee, letters are requested from two science and one non-science course instructors. Candidates will be expected to complete all required premedical courses before June 15 of the year they are to matriculate. With permission of the Committee on Admissions, this requirement at times may be waived. All courses must be completed prior to registration in the School of Medicine in September.

Matriculants are required to accept the provisions of the Honor Code and to agree to assume its obligations prior to registration. A copy of the Honor Code and agreement form is sent to each candidate with notice of acceptance.

Although preference will be given to Maryland residents, applications from well qualified students from other areas of the United States and Canada are welcome. Because of the many applicants for the number of places available, applicants can be considered only if they are citizens of the United States or Canada. Applicants from foreign schools must complete at least two years of premedical work in an approved college or university in the United States or Canada.

Definition of Residence and Non-Residence

Students who are minors are considered to be resident students if at the time of their registration their parents have been domiciled in the State of Maryland for at least six months.

The status of the residence of a minor is determined at the time of his first registration in the University and may not thereafter be changed by him unless his parents move to and become legal residents of Maryland by maintaining such residence for at least six months. However, the right of the minor student to change from a non-resident status to resident status must be established by his parents or legal guardian prior to the registration period set for any semester.

Adult students are considered to be residents if at the time of their registration they have been domiciled in Maryland for at least six months provided such residence has not been acquired while attending any school or college in Maryland or elsewhere. An adult may change his status from non-resident to resident by withdrawing from the University for six months and remaining in the state as a civilian not enrolled in any other institution for more than eight semester hours of credit. Time spent on active duty in the armed services while stationed in Maryland will not be considered as satisfying the six-months period referred to above unless the individual's home of record on his official military records is the State of Maryland. In the case of both military personnel and adults, residence may be established through ownership and maintenance of a home in the state which is the student's primary place of domicile.

Procedures are available for reviewing the residence status of students. Individuals seeking to appeal the decisions concerning their residence status should contact the Office of Admissions.

The word "domicile" as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

Requirements for Admission to First Year Class

Careful attention should be given to the selection of elective courses, particularly in the sciences. Except under unusual circumstances the student should plan a four year curriculum with a suitable Arts and Science major leading to a bachelor's degree. A major in an area other than science is quite acceptable although it is not intended to divert students from a science major if this is their field of choice. The student taking science courses beyond the minimal requirements is encouraged to take such subjects as embryology, comparative anatomy, psychology, anthropology, physical chemistry, or cellular physiology. Courses duplicating medical school work are not recommended unless they are required in the student's major sequence. Having credit in such courses will not excuse students from taking them in medical school. However, the opportunity to place out of biochemistry by written examination is offered. In the non-science area courses in English, philosophy, sociology, economics, history and government and politics are recommended. Mathematics through calculus is also recommended.

Applicants who choose a non-science major should take a sequence of science courses which demonstrates their academic ability to capably handle the demands made by science oriented curriculum.

A minimum of 90 semester hours (three academic years) of acceptable college credit is required exclusive of physical education and military science, earned in colleges of arts and sciences whose names occur on the current list of "Accredited Institutions of Higher Education" as compiled by the National Committee of Regional Accrediting Agencies of the United States. Applicants who will have earned a bachelor's degree in arts and sciences before registration for medical school from an approved college or university will be given preference over applicants who have not completed the requirements for the bachelor's degree. Only those courses will be acceptable which are approved for credit towards an A.B. or B.S. degree by the university or college attended as well as the University of Maryland.

The following college courses and credits at an acceptable level are required before registering for Medical School.

	Semester Hours
General biology or zoology	8
Inorganic chemistry	8
Organic chemistry	6
General physics	8
English	6

No more than 60 hours can be accepted from accredited Junior Colleges and then only if these credits are validated by a college offering a Bachelor of Arts or Science Degree.

Applicants over the age of 28 cannot be encouraged to apply.

An evaluation of the applicant's credentials is made by members of the Committee of Admissions to determine if an interview is to be requested. This decision is based upon a composite estimate of the applicant's ability and future promise in the field of medicine as measured by his academic record to date, performance in the Medical College Admissions Test, recommendations of the premedical faculty, extracurricular activities, and the applicant's overall standing as compared with that of the other applicant's applying that year. Such interviews must be scheduled in advance at the initiative of the Committee.

The Medical College Admission Test should be taken in May and must be taken no later than October of the year preceding the year of entrance. Applicants should write the Psychological Testing Corporation, 304 East 45th Street, New York, New York 10017, for further information and for registration forms.

Requirements for Admission to Advanced Standing

Students who have attended approved medical schools are eligible to file applications for admission to the second and third year classes only. These applicants must meet the current first year entrance requirements in addition to presenting acceptable medical school credentials and a medical school record based on courses which are equivalent to similar courses in this school.

Application for advanced standing must be made no later than April 15 of the year of desired admission.

No student can be considered who has been dismissed from any medical school unless his former Dean submits a letter addressed to the Committee on Admissions stating the student is reinstated in good standing and eligible for promotion.

No student can be considered who is not eligible for promotion at time of transfer.

Persons who already hold the degree of Doctor of Medicine will not be admitted to the Medical School as a candidate for that degree from this University.

No applicants from foreign medical schools can be considered for advanced standing.

Application for admission to advanced standing is made in accordance with instructions accompanying the application form.

Method of Making Application

The School of Medicine is participating with the American Medical College Application Service (AMCAS). Requests for application material for the first year class may be obtained from either AMCAS, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036 or The Committee on Admissions, School of Medicine, University of Maryland, 660 West Redwood Street, Baltimore, Maryland 21201.

Application for admission to the first year class entering in September must be filed between July 1 and December 15 of the year prior to desired admission. Requests for application forms should be made after June 15. Application material cannot be released after December 1. The deadline for receiving the application form is December 15.

It is very definitely in the best interests of the applicant to file the application form and supporting credentials early in the application period. Please do not have supporting credentials sent prior to filing a final application.

It is the responsibility of the applicant to see that all required credentials and the completed application packet are filed with and received by the Committee on Admissions. This especially applies to the letter of recommendation from the premedical committee, transcripts from all institutions attended (sent directly from that institution to the Committee), and the scores on the Medical College Admissions Test.

Orientation for New Students

All new students, whether they are admitted to the first year class or with advanced standing, are expected to attend Orientation for New Students.

Instruction Leading to the Degree of Doctor of Medicine

Organization of Curriculum

Broadly stated, the educational objectives of the School of Medicine are as follows:

- To educate students in a manner which will enable them to function at a high level of technical competence and social awareness in an ever-changing, constantly demanding profession.
- To provide opportunities for students at every level of training to pursue areas of special interest in depth, whether for intellectual stimulation or furtherance of a career choice.
- To train a variety of individuals to form the core of highly competent professionals who will practice medicine as generalists or specialists, teach full time or part time, or continue to add to human knowledge through research.

More specifically, the curriculum has been designed to meet educational contingencies as they arise. To this end the faculty has established as a basic

principle continuous curricular review and has empaneled a standing Curriculum Committee. It is charged with the responsibility of monitoring the

curriculum and recommending changes whenever they are deemed necessary. The curriculum varies from year to year to meet students' changing educational needs. It preserves the standard or classical sequence of subject matter but the method by which each is presented is modified. The first year provides general and overview courses in the basic sciences. Free time is scheduled for outside reading and independent study. Small group conferences are offered in some subjects in lieu of, or in addition to, laboratory experiences.

The second year introduces in the first semester the second level basic material. In the second semester instruction shifts to a subject system orienta-

tion. The emphasis in this approach is interdisciplinary.

In the first and second years efforts are made to indicate the clinical relevance of subject matter. A course entitled "Correlative Medicine" introduces the students to patients with clinical problems related to material being studied in Biochemistry, Anatomy and Physiology. In addition, Embryology has established working arrangements with the departments of Pediatrics and Otolaryngology who present patients with embryologically-based problems.

In the second year, during the subject systems teaching, clinical specialties participate in the presentation of basic material.

Courses offered in the first two years are as follows:

Year 1. Anatomy—Gross and Microscopic

Biochemistry

Biophysics

Biostatistics

Correlative Medicine

Embryology

Genetics

Introduction to Clinical Practice—Beginning Physical Diagnosis

Neurological Sciences

Physiology

Psychiatry

Sociology

Year 2. Clinical Pathology

Community Medicine—Epidemiology and Preventive Medicine

Microbiology

Pathology—General and Special

Pharmacology

Physical Diagnosis

Psychiatry

These subjects are taught in an interdisciplinary fashion in the second semester as subject systems. Correlation of content is made as part of a conference entitled Introduction to the Mechanisms of Disease. The systems studied are Gastrointestinal, Nervous, Cardiovascular, Musculoskeletal, Renal, Endocrine, Reproductive and Respiratory.

The two clinical years, like the preclinical, must be viewed as a unity. The

third year provides a basic clinical experience in five major specialty areas: Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, and Psychiatry-Neurology. Instruction in each of these disciplines is presented as the "core" or minimum experience needed by all students before moving into the senior (elective) year.

The senior year is highly flexible and individualized. Students are offered a 48-week year from which they will be granted 12 weeks of vacation or free time, to be taken when they elect. They are required to take a 12 week experience—six weeks of which is a combined experience in ambulatory care and preventive medicine. (Primarily a clinical clerkship in ambulatory care with two mornings a week given to more didactic sessions in preventive medicine.) The remaining 6 weeks are made up of a combined Anesthesiology, Ophthalmology and Radiology clerkships. The remaining 24 weeks are to be filled with a program of the student's own design with the advice and consent of a faculty advisor. At the present time the student has over 200 faculty-approved elective programs from which to choose.

General Faculty Rules

The University authorities reserve the right to make changes in the curriculum, the requirements for advancement and graduation, fees, and in rules and regulations whenever appropriate.

Students who report for classes later than one week after scheduled time will be permitted to begin work only by permission of the Dean.

Attendance at all scheduled classes is expected.

Notice of change of address should be submitted promptly to the Dean's Office and to the Registrar's Office.

Grades and Promotion

Official grades are designated by these symbols:

H-honors, completion of the course with exceptional performance

P—satisfactory completion of the course

F-failure

When circumstances beyond a student's control make it impossible for him to complete a course at the usual time, he will be given an Incomplete (I) until such time as he has completed the course. An "I" is in no way prejudicial to the final rating or grade of the student in the course.

Periodically throughout the academic year, the Advancement Committee convenes to review the records of all students in each class. The estimate of a student's academic status is based on academic achievement, his moral and ethical traits and general evaluation of his fitness for a career in medicine.

Students with one or more failures, at the discretion of the Advancement Committee, may be allowed to remove the "F" by: reexamination; repetition of the course, the semester, the entire year at the School of Medicine or the course at any school satisfactory to the department head, or may be dismissed.

Students who repeat a year and who do not show significant improvement in all courses may, at the discretion of the Advancement Committee, be dismissed. All "F" grades must be absolved prior to graduation.

The faculty reserves the right to determine if a student may withdraw, re-

peat, advance or graduate on academic or moral and personal grounds, including traits of character.

All discretionary actions of the Advancement Committee are subject to ratification by the Faculty Board and must be presented to them at their next meeting.

Certification for State Board Examinations

Students at the end of their second and fourth years will be certified to the State Board of Examiners if they have successfully completed the requirements for promotion to the third year or for graduation.

Diplomas

Members of the Senior Class must fill out an "Application for Diploma Form."

Commencement

All graduating seniors are required to attend the Pre-commencement and Commencement ceremonies unless excused in writing by the Dean.

Additional Educational Programs

Baccalaureate Degree

Selected students entering the School of Medicine from colleges which usually grant a baccalaureate degree after the successful completion of the first year of medicine, are responsible for: a) providing a certificate from his college or university that he is eligible for this degree, and b) meeting all requirements of the School of Medicine for advancement to the second year.

Graduate Program

Graduate courses and research opportunities leading to advanced degrees are available in most of the basic science departments of the School of Medicine. Students pursuing graduate work must register in the Graduate School of the University of Maryland and meet the same requirements as other graduate students. Detailed information concerning fees, scholarships, and other material of general nature, may be found in the University publication titled An Adventure in Learning. This may be obtained from the Office of University Relations, North Administration Building, University of Maryland, College Park, Maryland 20742.

Combined Doctor of Philosophy—Doctor of Medicine Program

Properly qualified medical students may elect to enter the combined educational program leading to Doctor of Medicine and a graduate degree. Such students may arrange a leave of absence of up to three years at the end of their second or third year in medical school to become candidates for either M.S. or Ph.D. in one of the basic medical sciences. Before entering the combined program, students must meet the requirements for admission to the Graduate School and be acceptable to the department of their choice as a candidate for an advanced degree.

Additional Educational Programs

Research training in international health is accomplished through the mechanism of a Research Associate program under the Institute of International Medicine. This program provides for post-doctoral training in research on a broad spectrum of health problems of developing nations.

Internships and Residencies

The University of Maryland Hospital offers the following graduate specialty training programs for interns and residents. These programs are approved by the Council on Medical Education and Hospitals of the American Medical Association.

The Hospital participates in the National Intern Matching Program to fill its 35 approved intern positions. The program includes rotating internships and straight internships in medicine, surgery, pediatrics, and pathology.

Approved residency programs are offered in the following specialty areas:

Department of Medicine: Internal Medicine, Dermatology, Family

Department of Surgery: General Surgery, Neurological Surgery, Orthopedic Surgery, Thoracic Surgery, Otolaryngology, Urology

Department of Pediatrics: Pediatrics, Pediatric Allergy Department of Psychiatry: Psychiatry, Child Psychiatry

Department of Anesthesiology: Anesthesiology

Department of Obstetrics-Gynecology: Obstetrics and Gynecology

Department of Pathology: Pathology

Department of Rehabilitation Medicine: Rehabilitation Medicine

Department of Radiology: Radiology Department of Neurology: Neurology

Department of Preventive Medicine: Preventive Medicine

Department of Ophthalmology: Ophthalmology

In total, approximately 250 resident positions are offered.

Appointments to intern and resident positions are made by the Director of the Hospital upon the recommendations of the House Staff Committee of the Medical Board or, in the case of residents, upon the recommendations of the appropriate Clinical Department Head. Correspondence and applications should be addressed to:

THE DIRECTOR
University of Maryland Hospital
Redwood and Greene Streets
Baltimore, Maryland 21201

Additional Education Programs

Research training in international health is accomplished through the mechanism of a Research Associate program under the Institute of International Medicine. This program provides for post-doctoral training in research on a broad spectrum of health problems of developing nations.

Tuition, Fees and Registration

Current Fees

Application Fee\$	7.50
Matriculation Fee (New Students)	10.00
Tuition—Resident of Maryland	900.00
Tuition—Non-Residents	500.00
Laboratory Fee	25.00
Student Activities Fee	23.50
Student Health Fee	10.00
*Student Union Fee	30.00
**Special Fee	25.00
***Hospital Insurance (Blue Cross)	
Individual Plan	61.68
Parent and Child	129.60
Family Plan	162.24

The application fee should be submitted with the formal application to medical school. A deposit on tuition of \$50 is required of all applicants before the expiration date specified in the offer of acceptance. The deposit on tuition will be credited against first semester charges. In the event of withdrawal before registration, the advanced deposit will be returned on request, if requested before March 1.

Registration

For the fall semester, all students, after proper certification, are requested to complete a set of registration cards to be obtained from the Office of the Assistant Dean of Student Affairs. All students are expected to complete their registration, including the payment of bills on the registration days. Those who do not complete their registration on the prescribed days will be charged a fee of \$20.00.

One-half of the tuition fee and all of the following—the laboratory fee, the student health fee, the student union fee, the National Board Examination fee, the special fee, and the student activities fee are payable on the date specified for registration for the first semester. Blue Cross Hospitalization for six months in advance is paid at the beginning of each semester.

*The Student Union Fee is payable by all students enrolled in the Professional Schools on the Baltimore Campus and is used to pay interest on and amortize the cost of construction of the Union Building.

**The Special Fee is payable by all full-time students enrolled in the Professional Schools on the Baltimore Campus and is used to finance equipment for the Union Building.

***Membership of the student in Blue Cross or any other acceptable hospital insurance is required. Each student must produce certified proof of such membership at the time of registration. Rates are subject to change.

The remainder of the tuition fee shall be paid on the date designated for the payment of fees for the second semester. Fourth year students shall pay the graduation fee, in addition, at this time.

Any enrolled student may request at registration the postponement of payment of one half his tuition charges (but not fees) for 30 days. This service is interest free and requires only the student's promise to pay by that date.

Non-payment of Fees

If semester fees are not paid in full on the specified registration dates, a penalty of \$20.00 will be added.

If a satisfactory settlement or an agreement for settlement is not made with the business office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

Re-examination Fee

A student who is eligible for re-examination must secure a bill in the amount of \$5.00 from the Registrar's Office, make payment to the Cashier for each subject in which he is to be examined, and present the receipt to the faculty member giving the examination before he will be permitted to take the examination.

Student Activities Fund

This fund supports all student activities and is budgeted by the Student Council in accordance with its own by-laws. All expenditures from this fund must be approved by the Student Council. The fund supports the student recreational and social program, representation at national conventions for certain student organizations, the cost of registration in the National Internship Matching Program as well as other activities. A portion of the fund is allocated to the yearbook and provides each medical student with a copy of this publication. On registration all students are given a copy of The Student Handbook containing The Honor Code and The By-Laws of the Honor Council together with the By-Laws of the Student Council.

Withdrawals and Refunds

Students desiring to leave the School of Medicine at any time during the academic year are required to file with the Dean a letter of resignation. The student must satisfy the authorities that he has no outstanding obligations to the school and must return his Student Identity Card and Matriculation Card.

If these procedures are not completed, the student will not be entitled to honorable dismissal nor to refund of fees.

Students under 21 years of age must supplement the procedures previously described with the written consent of their parents or guardians.

Academic Standing On Withdrawal

Students who voluntarily withdraw during an academic semester will be given no credit.

Students are not permitted to resort to withdrawal in order to preclude current or impending failures. Their standing on withdrawal will be recorded in the Registrar's Office.

Students who withdraw from the School of Medicine, and later desire readmission, must apply to the Committee on Admissions, unless other arrangements have been consumated with the Dean's written consent.

Refunds On Withdrawal

Students who are eligible to honorable dismissal will receive a refund of current charges, after the matriculation fee has been deducted, according to the following schedule:

Periods Elapsed After Instruction Begins

	Percentage Refundable
Two weeks or less	. 80%
Between two and three weeks	60%
Between three and four weeks	. 40%
Between four and five weeks	. 20%
After five weeks	. 0%

Leave Of Absence

Students who are in good standing may be granted one year's leave of absence on request to the Dean. Longer leaves can be arranged only under special circumstances except those students in the combined M.D.-Ph.D. program.

Required Equipment

At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments similar to the one on display in the bookstore. In addition, they must provide themselves with a standard monocular or binocular microscope equipped with a mechanical stage and a substage lamp, and the following additional attachments:

30 mm., 4x 0.1N.A.

16 mm., 10x, 0.25N.A.

4 mm., 43x, 0.65N.A.

1.8 mm., 97x, oil immersion, 1.25 N.A.

Oculars: 10x

A substage condenser (1.25N.A.) with rack and pinion focusing device

A carrying case is recommended

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some of the older instruments are in poor optical or mechanical condition, and in addition, some are equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage.

All microscopes will be checked during the first scheduled laboratory

in Microanatomy.

Other instruments and equipment may be needed. The student will be informed of these needs by the department involved at an appropriate time.

Students in the second year class are also expected to provide themselves with short white lapel coats. Three button, 8-ounce sanforized duck coats are satisfactory.

Prizes, Scholarships, Fellowships, Loan Funds, and Student Employment

Prizes

The Faculty Prize

The Faculty will award the Faculty Gold Medal and Certificate and five or more Certificates of Honor to those highest ranking candidates for graduation who, during the four academic years, have exhibited outstanding qualifications for the practice of medicine.

The Balder Scholarship Award

Each year a prize of \$500 will be awarded for outstanding academic achievement to a graduating senior.

The Dr. J. Edmund Bradley Prize

Each year a prize of \$100 is awarded to a graduating senior who has performed with special excellence in Pediatrics. This award is given in honor of Dr. Bradley, Professor Emeritus of Pediatrics.

The Dr. A. Bradley Gaither Memorial Prize

A prize of \$25, given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, is awarded to the student in the fourth year class doing the best work in Genito-Urinary Surgery.

The Dr. Leonard M. Hummel Memorial Award

A gold medal and Certificate of Proficiency will be awarded annually as a memorial to the late Dr. Leonard M. Hummel to the graduate selected by the Executive Committee of the Faculty who has manifested outstanding qualifications in Internal Medicine.

The Dr. Harry M. Robinson, Sr., Prize

A prize of \$25 is given each year in honor of Dr. Harry M. Robinson, Sr., late Professor Emeritus of Dermatology, to the member of the fourth year class selected by the Faculty who has done outstanding work in Dermatology.

The Dr. Jacob E. Finesinger Prize

A prize of \$100 is given each year in honor of Dr. Jacob E. Fine-singer, late Professor and Chairman of the Department of Psychiatry, to the member of the fourth year class selected by the Faculty who has done outstanding work in Psychiatry.

The Dr. Milton S. Sacks Memorial Award

A prize of \$100 is given each year in honor of Dr. Milton S. Sacks, late Professor of Medicine and Hematology, to the member of the fourth year class selected by the Faculty who has performed with special excellence in Medicine and Hematology.

The Dr. Wayne W. Babcock Prize

Each year a prize of \$50 will be awarded to a graduating senior for outstanding work in Surgery as a memorial to Dr. Wayne W. Babcock.

The Clinical Pathological Conference Award

The junior or senior student who has performed most ably throughout the academic year in the diagnosis of clinical pathological conference cases will receive an award of \$50 and will have his name appropriately inscribed on a plaque in Gordon Wilson Hall.

Financial Aid

The supervision of financial aid for medical students rests with the Assistant Dean of Student Affairs, 103 Davidge Hall. In general, all University scholarships and most Federal scholarships and loans are awarded on an annual basis in July prior to the academic year. Relevant applications must be complete by June 1. A far smaller number of Federal scholarships, Federal loans, and University loans are awarded in October and in January.

Scholarships

ALL CLASSES

Federal Health Professions Scholarship Program

Members of the class may apply for Federal Scholarships awarded on the basis of need alone to "students of exceptional financial need who need such assistance to pursue a course of study." Those students eligible for such scholarships may anticipate a total educational indebtedness at the end of Medical School not substantially in excess of \$5000. Such scholarships, which are renewable after annual reassessment of both needs and resources, may be as high as \$2500 per year. No

Federal Scholarship will be awarded to students who do not also simultaneously request and receive a Federal Health Professions Loan.

State Scholarships For General Practice

The State Scholarship Board, 2100 Guilford Avenue, Baltimore, Maryland 21218, offers 10 scholarships each year in the amount of \$1500 per year. Such awards, which are renewable annually, may be made to needy students anticipating or having a bachelor's degree in the year of the award. The students must have been residents of Maryland for five years prior to the time of application. The awards, based on need and academic merit, will be given to students only if they sign a bond to "engage in general practice of medicine for no less than three years in an area of need in the State of Maryland so designated by the State Health Department. . . ." Applications for these awards should be made directly to the State Scholarship Board; they must be submitted by April 1 prior to the relevant academic year.

Air Force Reserve—Regular Officer Program

Students who will be 26 years old or less when they enter Medical School and have or are capable of obtaining an Air Force Commission are eligible for a special program. Students selected in a nationwide competition will receive full pay and allowances as well as reimbursement for tuition, fees, equipment and books throughout their Medical School tenure. In repayment they must remain in the Air Force for two or three years for each year they receive such financial support. Detailed information shall be obtained as soon after acceptance as possible from USAFMPC (AF MSMB-4) Randolph AFB, Texas 78148.

FOR FRESHMEN ONLY

Avalon Scholarship

An Avalon Scholarship, with a stipend of \$650, will be awarded to the member of the incoming freshman class who shows the greatest promise of a successful career in medicine. All accepted students are eligible whether resident or non-resident. Formal application is not necessary in that all admitted students are automatically considered. At the end of each academic year, the recipient's record will be reviewed by the Committee on Scholarships and Loans and the scholarship extended for another year if the record warrants. Any recipient who does not stand at least in the upper third of the class may not be considered eligible for renewal. If an applicant is awarded an Avalon Scholarship, it is understood that during its tenure he will accept no outside remunerative employment during the school year without approval of the Office of the Assistant Dean of Student Affairs.

Warfield Freshman Merit Scholarship

Five scholarships, each with a stipend of \$650, are available to members of the first year class who are residents of Maryland and who have demonstrated outstanding potentiality for the study of medicine.

FOR UPPERCLASSMEN ONLY

University Scholarships

Over 50 University Scholarships are available to members of the three upperclasses with stipends ranging from \$250-\$1000 a year, with an average of about \$500. Almost half of these scholarships are derived from the kind bequest of the estate of Dr. Michael Vinceguerra. All scholarships are awarded for one academic year and will be renewed only on application. Awards are made on a competitive basis with both academic proficiency and need as a major consideration. Students who do not qualify for scholarships may apply for student loans.

Loans

Federal Health Professions Student Loan Program

Significant financial assistance is available to all students in need from the Federal Health Professions Student Loan Program. Loans up to \$2500 per year are repayable over a 10-year period, beginning one or more years after graduation, subsequent to completion of internship and residency training. No interest is charged on the loans until the beginning of the repayment period, when a 3% interest will be charged.

University Loans

Loans from a number of funds under direct Medical School control are available to medical students who are in financial need. Application may be made at any time, although most applications are made and considered shortly before the beginning of the second semester. Except in unusual circumstances, loans from Medical School funds are limited to \$400 a year. Such loans are awarded on the basis of need. Most loans are to be repaid in five equal installments with the first payment on the loan being due at the end of the fifth year following graduation. At that time simple interest of 3% begins to accrue.

American Medical Association Loans

The American Medical Association will guarantee loans up to \$1500 per year to medical students with 6.5% interest. Repayment must begin on the first day of the fifth month after completing training including internship and residency. Thereafter there will be a 7% interest charged on the unpaid balance.

Student Council Emergency Loan Fund

The Student Council of the Medical School has established an Emergency Loan Fund for all medical students. When funds are available, loans are without interest, are limited to \$400, and must be repaid within 120 days.

Fellowships

Student Research Fellowships

Over 100 Student Summer Research Fellowships are available annually upon application to the Committee on Scholarships and Loans or to the individual departments of the School of Medicine. A very limited number of student research fellowships are awarded for work during the academic year by selected departments.

The Dr. John B. Weaver Fellowships

The Will of Dr. John B. Weaver, who died in 1929, authorized the Trustees of the Endowment Fund of the University of Maryland to establish fellowships in his name. Two such fellowships, each in the amount of \$1500, will be awarded annually to applicants who as physicians are full time fellows in research or teaching in the University of Maryland School of Medicine.

Student Employment

Students engaging in outside work during the academic year must report such activities to the Assistant Dean of Student Affairs at the beginning of the school year or at anytime during the school year that such work is undertaken. Students of any class designated by an appropriate Advancement Committee to be in academic difficulty will not engage in part time employment without the approval of the Assistant Dean of Student Affairs. Students considering outside employment in a clinical setting are encouraged to review carefully the opinion of the Law Department of the American Medical Association entitled "Employment of Medical Students as Externs."

General Information

Organizations

STUDENT ACTIVITIES COMMITTEE

This Committee serves to coordinate and integrate the activities of all student groups and to act as liaison between the student body, the administration, and the faculty. Members are: President of the Student Council, Class Presidents, Chairman of the Honor Council, President of the Student American Medical Association, President of the Interfraternity Council,



Bressler Building

President of Alpha Omega Alpha, President of the Women's Auxiliary to the Student American Medical Association, Editor of the Yearbook, Editor of the Asclepian, Chairman of the Student Health Organization, Chairwoman of the Omega Mu Sorority, Treasurer of the Medical Student Council, and Class Presidents of the Junior and Senior Department of Physical Therapy. The Assistant Deans and those faculty members appointed by the Faculty Board are also members.

A subcommittee, Student-Faculty Council meets periodically to discuss topics of special interest to the medical community.

Student Council

Each year the student body elects the Student Council which formulates and directs policies and activities of the student body and makes appropriate recommendations to the proper authorities. It is also responsible for disbursement of student activities fund, arranges the social program for the year, and maintains liaison with the Student Union Board.

Honor Council

The Honor Council, elected by the Student Body, is responsible for the interpretation and execution of the Honor Code. Acceptance of the provisions and obligations of this Code is required of all students entering the Medical School.

Baltimore Student Union Board

The Board is a representative body of those students who live in the Student Union. The Medical Student Council maintains liaison with the Board.

Student American Medical Association

This organization is designed to prepare the future physician for full participation in the field of Medicine. Furthermore, the active chapter is responsible for student liaison with high school and college groups, for publication of the bimonthly Asclepian, and for other important and educational and service activities of value to individual students. The Asclepian covers Medical School news including the latest developments in areas of concern to medical students and faculty.

Women's Auxiliary, Student American Medical Association

The Women's Auxiliary helps wives and medical students prepare themselves for their future responsibilities as wives of physicians. It has promoted closer association among the student wives, both with each other and with wives of faculty members and participating physicians. The Auxiliary actively participates in many functions for the betterment of the Medical School, including supervision of the used microscope and book sale.

Omega Mu

The women students in School of Medicine recently organized their own sorority. Faculty and students are provided a social atmosphere to exchange ideas of mutual interest. Functions include guest dinner speakers, special program for incoming freshmen and lectures for entire student body.

Student Health Organization

Baltimore Chapter was formed by medical, nursing, dental, and social work students at the University of Maryland with the basic tenet that health profession students have an objective to work together within the community. Community health projects are undertaken.

The Yearbook

The Yearbook, Terra Mariae Medicus, which covers all the facets of student activities, is compiled by the students. Originating as Bones, Molars, and Briefs, the Yearbook has provided a continuous record of graduating classes as far back as 1896. It is the outstanding record of student life. The cost of the Yearbook is included in the Student Activities Fee; hence, all medical students are entitled to receive a copy annually without further charge.

Student Council Intramural Athletic Program

Each year the Student Council sponsors an intramural athletic program which consists of competition, generally interclass, in touch football, basketball, softball, and tennis. Furthermore, a faculty-student softball game is a feature of the annual Medical Student Council Spring Picnic.

The Interfraternity Council

The purpose of the Council is to further the interests and improve the coordination and cooperation of the member groups. Each fraternity is represented by its President and Social Chairman. One of these representatives is chosen President for the school year on a rotating basis.

The Interfraternity Council organizes the Freshmen Orientation Program.

Alpha Omega Alpha: National Honorary Medical Society

The Beta chapter of Maryland was established at the University of Maryland in 1949. Medical students possessing outstanding qualities of moral integrity, scholarship, and leadership are elected to membership in their third or fourth years. The Society sponsors an annual lectureship, a forum for the presentation of medical student research, and chapter meetings on topics of social, educational, and philosophical interest to medical students and faculty.

Housing—Student Union

The Baltimore Union for students of the Professional Schools is located adjacent to the Professional Schools at 621 West Lombard Street. Accommodations for both men and women are provided in a five-story semi-air-conditioned building which also contains a cafeteria, fountain lounge, meeting rooms, laundry facilities, game room, bookstore, barbershop and lounges on each floor. Double rooms only are available. The rental agreement is made for rooms only; meals are served cafeteria style on a cash basis. The contract for accommodations covers the academic year. The charge for each student in a double room is \$215.00 per semester.

The room rate includes the following room furnishings: bed and cover, mattress, chest of drawers, closet, book shelves, desk, medicine cabinet, desk chair and desk lamp. Telephone service is available through the Chesapeake & Potomac Telephone Company. Cost of the telephone is not included in the room rate. Information on the Baltimore Union and on private housing can be obtained from the Director's Office. Mail Service is also provided.

Towels and linens may be rented from the Gordon-Davis Linen Service or each resident may provide his own. A small amount of luggage space is available. Storage of anything other than luggage will not be available.

Application forms may be secured from the Director's Office, The Baltimore Union, 621 W. Lombard Street, Baltimore, Maryland 21201. Rooms will be assigned only on receipt of an application form duly executed and accompanied by the required deposit.

Buildings and Facilities

Davidge Hall

This hall, at 522 West Lombard Street, is named after the first dean, Dr. John Beale Davidge, and was the first building of the medical school to be erected. It was completed in 1812 and is a replica of the Pantheon in Rome. It is the oldest structure in this country from which the degree of Doctor of Medicine has been granted annually since its erection. It is located at the N.E. corner of Lombard and Greene Streets and houses the offices of the Dean, and his staff, the Committee on Admissions, the Postgraduate Committee, Medical Alumni Office, in addition to Chemical and Anatomical Halls.

Administration Building

520 West Lombard Street contains facilities of the Department of Physical Therapy.

Bressler Research Laboratory

The Frank C. Bressler Research Laboratory at 29 S. Greene Street, a memorial to a generous alumnus, was completed in 1940.

It houses the Department of Anatomy in addition to the research facilities of the departments of Medicine and Surgery, animal quarters, the Bressler Memorial Room, and the Baltimore Offices of the Board of Regents and the President of the University.

Gray Laboratory

This building houses research laboratories of the various Clinical Departments and offices of the Department of Physical Therapy.

Howard Hall

660 West Redwood Street houses the Departments of Biochemistry, Biophysics, Cell Biology and Pharmacology, Microbiology, Pathology, and Physiology in addition to the Health Sciences Computer Center and the Central Animal Quarters of the School of Medicine. In this building also are located the Baltimore Office of the Registrar and Cashier, the Office of Admissions, and various other administrative offices of the Schools on the Baltimore Campus.

Medical Technology Building

31 South Greene Street houses some of the offices and laboratories of the Department of Pathology, offices of the Department of Preventive Medicine, and research laboratories of the Department of Pediatrics.



University of Maryland Hospital



Medical Technology Building



John Eager Howard Hall

University of Maryland Hospital

The University of Maryland Hospital is part of the University of Maryland. It is one of the oldest institutions for the care of the sick in the State of Maryland. It was opened in September 1823, under the name of the Baltimore Infirmary and at that time consisted of only four wards, one of which was reserved for patients with diseases of the eye.

In 1933-1934 the present Hospital was erected with a capacity of 435 beds and 65 bassinets. In 1952-1953 a modern Psychiatric Institute Building was erected and a junctional wing was added to the general hospital. New additions have increased the hospital bed capacity to 648 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, psychiatry, and the various medical and surgical specialties. All hospital accommodations, whether private, seimprivate, ward, or specialized, are available to the teaching programs.

The hospital buildings are situated opposite the Medical School buildings. The students, therefore, are in close proximity to the clinical facilities of the Hospital. The hospital is the major clinical teaching facility of the Medical

School.

Emergency Service

The Emergency Service of the hospital receives and treats a large number of emergency cases because of its proximity to the largest manufacturing and shipping districts of the city. During the past fiscal year a total of approximately 50,000 patients were treated in the Emergency Room.

Out Patient Department

The Out Patient Department is in the old University Hospital. It provides space and facilities for more than fifty clinics, the departments of X-ray, a pharmacy, laboratory, and other ancillary services.

Visits to the various clinics of the Out Patient Department during the last

fiscal year totaled approximately 146,000.

Health Sciences Library

The Schools of Medicine, Dentistry, Pharmacy, Nursing and Social Work and Community Planning are served by the Health Sciences Library in a modern, four-story library building. The oldest part of the library collection dates back to 1813 when the University of Maryland purchased the books of Dr. John Crawford to form a medical library. The present library contains more than 140,000 bound volumes and regularly receives over 2,700 scientific periodicals and annual publications.

During the academic year, the library is open 87 hours per week (six nights per week until 11:00 p.m.), with staff trained to give reference service

on duty most of these hours.

The Library of the Medical and Chirurgical Faculty of Maryland and the Welch Medical Library of the Johns Hopkins University are open to students of the School of Medicine without charge. Other scholarly libraries of Baltimore making their resources available are the Peabody Library and the Enoch Pratt Free Library.



Administration Building

Library Staff

ROVELSTAD, Howard, Director of Libraries and Professor of Library Science; A.B., University of Illinois, 1936; M.A., 1937; B.S.L.S., Columbia University, 1940.

*ROBINSON, Ida Marian, Librarian Emeritus; A.B., Cornell University, 1924; B.S.L.S., Columbia University School of Library Service, 1944.

*MOORE, Hilda E., Librarian and Associate Professor of Library Science; A.B., Randolph-Macon Woman's College, 1936; A.B.L.S., Emory University Library School, 1937.

*COYLE, Edith M., Assistant Librarian for Technical Services; A.B., University of North Carolina, 1937; A.B.L.S., University of North Carolina School of Library Science, 1939; M.A., Johns Hopkins University, 1945.

*MITTEN, Eleanor M., Assistant Librarian for Readers' Services; B.S., Cornell University, 1942; B.S.L.S., Syracuse University School of Library Science, 1949.

ABAR, Ellen L., Assistant Serials Librarian; B.S.. University of Michigan, 1965; A.M.L.S., 1968.

BROOKMAN, Patricia C., Acquisitions Assistant.

CANNON, Carole N., Circulation Assistant.

CHAFFIN, Regina F., Cataloging Assistant.

DeFAY, Helen D., Acquisitions Assistant.

*DeMANGE, Kathryn K., Head, Acquisitions Department; B.A., Fresno State College, 1954; M.L.S., University of Maryland, 1967.

*DORFLER, Melayn, Documents Librarian; B.S.. Denison University, 1963; A.M.L.S., University of Michigan, 1965.

EICHNER, June E., Circulation Assistant.

FENG, Margaret S. C., Assistant Cataloger; B.A., National Taiwan University, 1960; B.L.S., University of Ottawa, 1963.

FISHER, Janet S., Assistant Reference Librarian; A.B., Jacksonville (Ala.) State University, 1965; M.S., Florida State University, 1967.

HANNA, Ruth E., Reference Librarian; A.B., Hanover College, 1939; M.S.L.S., Catholic University of America, 1961.

HLAVIN. Lorraine S., Serials Assistant

HOBGOOD, Ella M., Reference Assistant.

HOSAIN, Parvathi, Cataloger; B.Sc., Andhra University (India), 1948; M.Sc., Lucknow University (India), 1953; A.I.N.P., Saha Institute of Nuclear Physics, University of Calcutta (India), 1955; Dip. Lib., University of Calcutta, 1959.

JOHNSON, Millard F., Jr., Systems Analyst; B.S., University of Washington, 1968; M.L.S., 1969; Certificate in Computer Librarianship, Washington University, 1970.

JONES, Margaret M., Head, Cataloging Department; A.B., Shaw University, 1947; M.S.L.S., Atlanta University School of Library Service, 1951.

KYLER, Cecilia J., Serials Assistant.

LEE, Clarice F., Head, Circulation Department; A.B., Morgan State College, 1950.

LISTFELDT, Hans-Guenther R., Head, Serials Department; B.S., Loyola College, 1956; M.S.L.S., Catholic University of America, 1961; Ph.L., 1967.

LISTFELDT, Mary S., Head, Reference Department; B.A., New York State College for Teachers (Albany), 1944; B.L.S., University of Wisconsin Library School, 1947.

LOTZ, F. Gwendolyn, Circulation Assistant; R.N. (Canada); Hamilton (Ontario) General Hospital, 1932.

MILLER, Susan C., Acquisitions Assistant.

NICKOL, Anne R., Circulation-Reserve Book Room Assistant; B.A., Western Maryland College, 1970.

O'BRIEN, Mary W., Cataloging Assistant.

PALMER, Elizabeth, Assistant to the Librarian.

REDFEARN, Louise M., Assistant to the Systems Analyst.

RIBEIRO, Patricia V.. Acquisitions Librarian; B.A., University of Hong Kong, 1959; M.L.S., University of California (Berkeley), 1960.



Health Sciences Library

RICHARDS, Katherine M., Historical Librarian; B.A., Marylhurst College, 1964; M.L.S., Indiana University, 1968; Certificate, Johns Hopkins University Medical Library, 1969. ROMAN, Margaret M., Reference Assistant.

SAMPSON, Diane, Acquisitions Assistant.

SNOWDEN, Claudine N., Reference Assistant; B.A., North Carolina College, 1944.

STADLER, Tomas J., Circulation-Reserve Book Room Assistant

STERLING, Elwood, Serials Assistant

WILKINS, Henry, General Library Assistant

WISOWATY, Evelyn C., Circulation Assistant; B.A., Westhampton College, University of Richmond, 1942.

*Certified Medical Librarian

Affiliated Institutions

Mercy Hospital

Mercy Hospital traces its history to the foundation of the Washington School of Medicine in 1824. In 1872, some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert Streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874, the Sisters of Mercy, upon the invitation of Washington School of Medicine, assumed responsibility for the Nursing Services of the hospital. In 1876, Washington University merged with the College of Physicians and Surgeons.

In 1888, the Sisters of Mercy, with the assistance of the Faculty of the College of Physicians and Surgeons, began construction of a new hospital adjacent to the earlier buildings. In 1909, the name of the institution was changed to "Mercy Hospital" and in 1911 another larger hospital building was constructed occupying the remaining frontage on that block of Calvert Street. The original College of Physicians and Surgeons building was purchased by Mercy Hospital from the University of Maryland in 1921.

Many additions have been made to the physical plant over the years. The present twenty-one story hospital on St. Paul Place, close to the commercial center of Baltimore, was opened in 1963. A new gastroenterological research laboratory was completed in 1965. A center for gastrointestinal endoscopy has also been established. A large, modern Ambulatory Patient Department with numerous design innovations to accommodate both private and clinic patients was completed in 1969. The following year the Department was awarded a Health, Education and Welfare Grant to conduct a pilot study of hospital based group practice in urban redevelopment.

The hospital is very active in the teaching program of the medical school. Faculty members serve as full-time heads of medicine, surgery, pediatrics and obstetrics-gynecology. Medical students rotate through the Mercy Hospital clinical services during the second, third and fourth years.

During the year ending June 30, 1970, there were 10,653 general admissions, 75,000 out-patient visits, 1,285 obstetrical deliveries and 22,392 emergency visits in the Accident Department.

The bed capacity is 364 plus 46 bassinets. All hospitals beds are available for teaching purposes. A School of Nursing, a School of Medical Technology and a School of Radiologic Technology are conducted in conjunction with the hospital.







aryland General Hospital

Baltimore City Hospital

Mercy Hospital



The James Lawrence Kernan Hospital and Industrial School of Maryland For Crippled Children, Inc.

This institution is situated on an estate of 75 acres within the northwestern city limits and of easy access to the city proper. The address of the hospital is Windsor Mill Road and Forest Park Avenue.

The hospital, complete in every respect, offers all modern facilities for the care of orthopedic problems in children and adults. Facilities are also available in the specialities of plastic surgery, neuromuscular disorders and

pediatric dentistry.

These facilities are used extensively in the teaching of orthopedic surgery, both pediatric and adult, to orthopedic residents from the University of Maryland, the Mayo Clinic, the Naval Medical Service and Sinai Hospital. A close liaison exists between the hospital and the Division of Orthopedic Surgery at the University of Maryland Hospital. The hospital is completely departmentalized with an extremely active Outpatient Department, as well as a well equipped Physical Therapy Department staffed with professionally trained personnel. The Occupational Therapy Department is fully established and developed under the direction of a Consultant Registered Occupational Therapist and trained Occupational Therapy Assistants.

The hospital is a private non-profit corporation with a capacity of 126 beds; 104 of which are allocated for children, and 22 adult beds. The hospital has been fully accredited by the Joint Commission on Accreditation

of Hospitals since 1954.

Baltimore City Hospitals

This is the only municipal hospital in Baltimore and has a bed capacity of 430. The departments of the hospital are: Anesthesiology, Chronic and Community Medicine, Dentistry, Medicine, Obstetrics and Gynecology, Pathology, Pediatrics, Physical Medicine and Rehabilitation, Psychiatry, Radiology and Surgery.

The acute hospital has 855 beds and is devoted to the usual medical activities. The chronic hospitals, where physical rehabilitation is emphasized on all patients, are devoted to chronic and degenerative diseases. The Baltimore City Hospitals is also a major center for research in Gerontology and Oncol-

ogy.

There is a strong affiliation between the School of Medicine and the Departments of Obstetrics and Gynecology, Anesthesiology, Radiology, Medicine, Surgery and Pediatrics. The heads of these departments as well as the clinical instructors are members of the University of Maryland School of Medicine faculty. They participate not only in teaching medical students but are active in the planned programs for house staff education. The basic teaching of Juniors in Gynecology and Obstetrics, Medicine, Surgery, Pediatrics and Anesthesiology is carried out in this institution. Some Seniors select their electives under the direction of the respective clinical department heads.

Maryland General Hospital

The Maryland General Hospital began humbly about 1883 at a location on Linden Avenue, north of Madison Street, with a capacity of 50 beds. Five

years later, a college building (The Baltimore Medical College), was erected on Madison Street and a maternity service known as The Maryland-Lying-In Hospital opened on Linden Avenue contiguous to the main building. Three years later the Dental Building followed.

Early in 1911 came a radical change. The Baltimore Medical College, including its College of Dentistry, was consolidated with the University of Maryland. This left portions of two buildings tenantless and functionless. Then came three Methodist groups, federating their purses and courage in purchasing and operating a hospital.

Two campaigns for funds, two years apart, met a heartening response from people of all faiths. Debts were extinguished and mortgage bonds retired. Property improvements began on a large scale. Both buildings were soundly converted to hospital uses.

In 1921 a successful campaign was completed to construct a modern nurses' home.

!n July, 1954, a contract was entered into for the creation of a seven story building—the first phase of the building program—and was dedicated in December, 1956. The new building made possible the demolition of the old buildings. The second phase of the program was completed in November, 1962.

The present bed complement is 428 plus 25 bassinets. In addition to increasing the bed capacity, construction of modern laboratories, recovery room, surgery, and x-ray departments, the new departments of an intensive care unit, a radioisotope laboratory, and cardio-pulmonary function laboratories were incorporated into this facility.

For the year 1970, there were 14,144 admissions, 7,727 surgical procedures and 1,297 obstetrical deliveries.

The new seven-story Eye, Ear, Nose and Throat building is now completed and functioning, together with a new Central Supply Room, Pharmacy, Pediatric Department and a twenty-three bed Coronary and Intensive Care Unit. The Out-Patient Department accommodates in excess of 50,000 visits per year.

For the fiscal year ended June 30, 1969, there were 14,966 admissions and 7,167 surgical procedures.

Historical Sketch

The School of Medicine of the University of Maryland, the fifth medical school to be founded in the United States, filled a great need for such an institution in the Baltimore area. On December 18, 1807, the General Assembly of the State of Maryland passed "An Act for Founding a Medical College in the City or Precincts of Baltimore for the Instruction of Students in the different Branches of Medicine." The philosophy of the founding fathers and the principles upon which the school was established have not changed. This is aptly expressed in the opening paragraphs of the Founding Act: "WHEREAS . . . it appears to the General Assembly that many benefits would accrue, not only to the State of Maryland but to many other parts of the United States, from the establishment of a seminary for the promotion of medical knowledge in the City of Baltimore, therefore, Be It Enacted . . . That a College . . . by the name of The College of Medicine of Maryland, be established . . . upon the following fundamental principles. . . The said

College shall be founded and maintained forever upon a most liberal plan, for the benefit of students of every country and every religious denomination, who shall be freely admitted to equal privileges and advantages of education, and to all the honors of the College, according to their merit, without requiring or enforcing any religious or civil tests"

The direction of the College of Medicine was vested in a Board known as "The Regents of the College" comprising the Board of Medical Examiners,

the President, and Professors of the College.

Dr. John Beale Davidge was selected as the first dean of the school. Under his farsighted leadership the original faculty formulated a new concept of medical education: "The science of medicine could not be successfully taught under the usual organization of medical schools; that without the aids of physiology and pathology, either associated with anatomy or as a separate chair of institutes, the philosophy of the body in sickness or in health could not be understood."

The first session of the College was not complete and lectures were delivered in the homes of Dr. Davidge, other members of the faculty, and at the Almshouse. From the beginning the School was fortunate in having patients at the Almshouse for use in bedside teaching.

The first recorded public graduation was in 1810 with five graduates listed,

three from Maryland and two from Virginia.

At the end of 1807 there was, in Baltimore, a medical college with officers and faculty but no buildings or money. A lottery was authorized in the amount of \$10,000, which was subsequently increased to \$40,000. The faculty contributed what it could and interested citizens helped to raise funds with which to begin the school and provide for its maintenance.

The location selected for the College of Medicine was the northeast corner of Lombard and Greene Streets on property owned by Col. John Eager Howard of Revolutionary War fame. Mr. R. Cary Long, an eminent architect, drew plans for the beautiful replica of the Pantheon which stands today and houses the two old amphitheatres, the offices of the Dean, the Alumni Association, Postgraduate Committee, and other administrative offices. This building was first occupied late in the year of 1812. It is the oldest building in this country from which the degree of Doctor of Medicine has been granted annually since its erection. In this building one of the first medical school libraries in the United States was founded.

The Faculty and Regents endeavored constantly to improve the curriculum and teaching facilities. New faculty members were secured and new methods were introduced in the school. Dr. John Crawford, one of the new faculty members, vaccinated Baltimoreans against smallpox during 1800, while Dr. Waterhouse was doing the same for citizens of Boston. As early as 1810 he presented evidence that tuberculosis was contagious. His personal library became the nucleus of the present Medical School Library.

In 1812 the General Assembly authorized founding of the additional Schools of Law, Divinity, and Arts and Sciences. The University of Maryland School of Medicine was unique in the history of education, since the medical school preceded the undergraduate and other professional schools.

The Baltimore Infirmary, the forerunner of the University Hospital, was built in 1823. The School was one of the first to have its own hospital for clinical instruction, and it was here that intramural residency for senior students was first established.

There were many "firsts" through the years. The study of human anatomy was recognized as basic for the acquisition of medical knowledge, but dissection was limited by the difficulty in obtaining bodies. The trustees recommended compulsory dissection as early as 1833, but the faculty did not enforce the recommendation until 1848, the first medical school in the country with such a requirement. Finally, enactment of the Anatomy Law provided unclaimed bodies to the medical schools for dissection (1882). At the College of Medicine of Maryland instruction was given in Dentistry (1837) and in the techniques of ausculation and percussion (1841) for the first time in America. In 1844 Dr. David Stewart, the first professor of pharmacy in the United States, initiated his lectures at the School, and compulsory courses in Experimental Physiology and Microscopy were introduced in 1854. The first independent chairs for teaching Diseases of Women and Children (1867) and Diseases of the Eye and Ear (1873) were established. Systematic clinical instruction in Nervous Diseases was instituted in 1869.

The Faculty and Regents recognized the need for medical education to include areas other than the sciences. In 1891 a rule was adopted which required each student to complete successfully a preliminary examination in English before being admitted.

At the time of the charter the course of instruction was only four months. In 1848 it was increased to four and a half months and attendance at two sessions was required. In 1891 the period of instruction was increased to three years and in 1896 all Doctor of Medicine candidates were required to complete a four year course of instruction.

Graduate programs were offered as early as 1860 and a special ten weeks summer course was given in 1870. These were the initial Postgraduate courses which have continued to the current era.

Honorary degrees have been conferred upon outstanding persons on rare occasions. The honorary M.D. degree conferred upon Dr. Ephraim McDowell by the University of Maryland School of Medicine in 1825 was his only degree. The Marquis de Lafayette was awarded the honorary degree of LL.D. during his visit to America in 1824.

The University of Maryland School of Medicine enjoys a rich heritage bequeathed by two other medical schools and their affiliated hospitals. Mergers with the Baltimore Medical College in 1913 and the College of Physicians and Surgeons in 1915 provided the University of Maryland School of Medicine with greatly expanded faculty and clinical facilities.

The State University was established in 1920 when the professional schools in Baltimore merged with the Maryland State College of Agriculture at College Park, Maryland. The State of Maryland assumed the financial obligation of all of the schools.

Throughout the many years since the Medical School's founding the prime emphasis has been placed on fitting men and women for the practice of medicine. Significant research contributions were made by many graduates although systematic programs of experimentation received greater emphasis in the later years, especially since the erection of the Bressler Research Laboratory in 1939-1940.

Women first entered the Medical School in 1921. There were six women in the 1922 class, two of whom completed the four year course of study. The School was integrated racially almost from the beginning and students of most races have completed the course of study and graduated.

Administration

BOARD OF REGENTS AND
MARYLAND STATE BOARD OF AGRICULTURE

Chairman KAPLAN, LOUIS L., PH.D. 3505 Fallstaff Road, Baltimore, Maryland 21215

Vice Chairman CASE, RICHARD W. Smith, Somerville & Case, 17th Floor, One Charles Center, Baltimore, Maryland 21201

Secretary BROWN, B. HERBERT The Baltimore Institute, 10 W. Chase Street, Baltimore, Maryland 21201

Treasurer NUTTLE, HARRY H. Denton, Maryland 21629

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MORGAN, MRS. ALICE H.
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Assistant Treasurer MILLER, F. GROVE JR. Route No. 1, Box No. 133, North East, Maryland 21901

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FRY, GEORGE C. Cecilton, Maryland 21913

HOOVER, DR. SAMUEL H. 507 Chadwich Road, Timonium, Maryland 21093

HURLEY, EDWARD V. Commission on Human Relations, Mount Vernon Building 701 St. Paul Street, Baltimore, Maryland 21202

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Geppert and McMullen, 21 Prospect Square, Cumberland, Maryland 21502

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Executive Vice President, Chesapeake and Potomac Telephone Company
320 St. Paul Place, Baltimore, Maryland 21202

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OFFICERS OF ADMINISTRATION OF THE SCHOOL OF MEDICINE

MOXLEY, JOHN H. III, A.B., M.D.

Dean of the School of Medicine

KENNEDY, V. WAYNE, B.S.
Assistant Dean for Fiscal Affairs

RAMSAY, FREDERICK J., B.S., M.S., PH.D.

Assistant Dean for Student Affairs

SPICER, WILLIAM S., JR., B.S., M.D.
Associate Dean for Health Care Programs

WEAVER, KARL H., A.B., M.D.
Associate Dean for Admissions

YEAGER, GEORGE H., B.S., M.D.

Associate Dean; Director of University of Maryland Hospital

OFFICERS OF THE UNIVERSITY OF MARYLAND AT BALTIMORE AND COLLEGE PARK

THE PRESIDENT OF THE UNIVERSITY OF MARYLAND

Elkins, Wilson H.

B.A., University of Texas, 1932; M.A., 1932; B. Lit., Oxford University, 1936; D.Phil., 1936.

CHANCELLOR OF THE UNIVERSITY OF MARYLAND AT BALTIMORE

Kuhn, Albin O.

B.S., University of Maryland, 1938; M.S., 1939; Ph.D., 1948.

THE PRINCIPAL ACADEMIC OFFICERS

Salley, John J., Dean, School of Dentistry
D.D.S., Medical College of Virginia, 1951; Ph.D., University of Rochester, 1954.

Lambooy, John P., Dean, Graduate Studies and Research
B.A., Kalamazoo College, 1937; M.S., 1938; M.A., University of Illinois,
1939; Ph.D., University of Rochester, 1942.

Cunningham, William P., Dean, School of Law A.B., Harvard College, 1944; LL.B., Harvard Law School, 1948.

Moxley, John H. III, Dean, School of Medicine
A.B., 1957, Williams College; M.D., University of Colorado, 1961.

Murphy, Marion I., Dean, School of Nursing B.S., University of Minnesota, 1936; M.P.H., University of Michigan, 1946; Ph.D., 1959. Kinnard, William J. Jr., Dean, School of Pharmacy

B.S., University of Pittsburgh, 1953; M.S., 1955; Ph.D., Purdue University, 1957.

Thursz, Daniel, Dean, School of Social Work and Community Planning B.A., Queens College, 1948; M.S.W., Catholic University, 1955; D.S.W., 1959.

Yeager, George H., Director, University of Maryland Hospital B.S., University of West Virginia, 1925; M.D., University of Maryland, 1929.

OFFICERS FOR CENTRAL AND ADMINISTRATIVE SERVICES

Assistant to the Chancellor

Stenger, W. Jackson

B.A., Washington College, 1949; M.A., Georgetown University, 1959; Ph.D., 1965.

Assistant to the Chancellor

Borom, Roy

B.A., Wooster College, 1949; M.S.S.A., Western Reserve School of Applied Social Sciences, 1951.

Comptroller

Cadwallader, Edgar C.

A.B.A., Baltimore College of Commerce, 1951.

Director of Admissions and Registrations

Smith, Wayne A.

B.S., University of Maryland, 1962.

Director of Personnel

O'Neill, John L.

B.A., University of Maryland, 1960; M.S., George Washington University, 1968.

Director of Physical Plant

Walton, Robert L.

B.S., University of Maryland, 1938.

Director, Student Health Service

Townshend, Wilfred H.

B.A., Johns Hopkins University, 1936; M.D., University of Maryland, 1940.

Director, University Relations

Wilson, Beth

A.B., University of Nebraska, 1930.

Librarian and Associate Professor of Library Science

Moore, Hilda E.

B.A., Randolph Macon Womens College, 1936; B.S., Emory University Library School, 1937.

Director, Health Sciences Computer Center

Jones, Robert L.

A.B., Hiram College, 1958; M.S., Syracuse University, 1961.

UNIVERSITY OF MARYLAND CENTRAL ADMINISTRATION

President

Elkins, Wilson H.

B.A., University of Texas, 1932; M.A., 1932; B.Litt., Oxford University, 1936; D.Phil., 1936.

Vice President for Academic Affairs

Hornbake, R. Lee

B.S., California State College, Pennsylvania, 1934; M.A., Ohio State University, 1936; Ph.D., 1942.

Vice President For General Administration

Waetjen, Walter B.

B.S., Millersville State College, Millersville, Pennsylvania, 1942; M.S., University of Pennsylvania, 1947; Ed.D., University of Maryland, 1951.

Vice President For Graduate Studies and Research

Pelczar, Michael J. Jr.

B.S., University of Maryland, 1936; M.S., 1938; Ph.D., State University of Iowa, 1941.

Vice President For Agricultural Affairs

Bentz, Frank L. Jr.

B.S., University of Maryland, 1942; Ph.D., 1952.

Faculty Organization

The Faculty Board of the School of Medicine is the governing and policy body of the School. The Faculty Board is composed of the Heads of all Departments, the Dean, Associate Deans and Assistant Deans, elected representatives from the faculty of each Department, the President and Secretary of the Medical Board of the University of Maryland Hospital, Heads of Divisions, and two alumni members. Faculty Board actions are carried into effect by the Executive Committee which is composed of the Dean, Associate and Assistant Deans, Department Heads, and four elected members of the faculty.

The faculty of the School of Medicine elects members to represent it in the University Senate.

Faculty

EMERITI

BALLARD, Margaret B., M.D., Associate in Obstetrics and Gynecology, Emeritus BRADLEY, J. Edmund, M.D., Professor of Pediatrics, Emeritus HACHTEL, Frank, W., M.D., Professor of Bacteriology, Emeritus KITLOWSKI, Edward Andrew, M.D., Clinical Professor of Plastic Surgery, Emeritus KRANTZ, John C., Jr., Ph.D., Professor of Pharmacology, Emeritus MUSSER, Ruth D., M.S., Assistant Professor of Pharmacology, Emeritus REESE, John Morris, M.D., Clinical Professor of Obstetrics and Gynecology, Emeritus SMITH, Dietrich C., Ph.D., Professor of Physiology, Emeritus TOULSON, W. Houston, M.D., Professor of Urology, Emeritus VOSHELL, Allen Fisk, M.D., Professor of Orthopedic Surgery, Emeritus ZINN, Waitman F., Professor of Otolaryngology, Emeritus

ACTIVE

Anatomy

- FIGGE, Frank H. J., Professor and Head of the Department; B.A., Colorado College, 1927; Ph.D., University of Maryland, 1934; D.Sc. (Honorary) Colorado College, 1968.
- BARRETT, Charles P., Assistant Professor; B.S., King's College, 1957; Ph.D., University of Maryland, 1969.
- BRANTIGAN, Otto C., Professor of Clinical Anatomy; B.S., Northwestern University, 1931; M.D., 1934.
- BULMASH, Melvin H., Instructor; B.A., Johns Hopkins University, 1946; D.D.S., University of Maryland, 1950; M.S., University of Maryland, 1969.
- DONATI, Edward J., Associate Professor; B.A., King's College, 1951; Ph.D., University of Maryland. 1964.
- HEARN, John B., Lecturer; M.B., B.S., Middlesex Hospital, London, 1947; D.M.R.D., 1952; F.F.R., 1955.
- JENCI, Joseph D., Instructor; B.S., Elmhurst College, 1960; Ph.D., University of Maryland, 1968.
- KRAHL, Vernon E., *Professor*; B.S., University of Pittsburgh, 1939, M.S., 1940; Ph.D., University of Maryland, 1946.
- LINHARDT, E. G., Assistant Professor; M.D., University of Maryland, 1937.
- MASTERS, Jason, M.. Assistant Professor; B.A., High Point College, 1951; M.S., Sul Ross State College, 1956; Ph.D., University of Maryland, 1965.
- McFADDEN, Robert B., Instructor; B.S., Loyola College, Baltimore, 1940; M.D., University of Maryland, 1943.
- MECH, Karl Frederick, Associate Professor; B.S., University of Maryland, 1932; M.D., 1935. OLIVIER, Margaret L., Instructor; B.A., University of Pennsylvania, 1955; Ph.D., University of Maryland, 1969.
- O'MORCHOE, Charles C. C., Associate Professor; B.A., Trinity College, Dublin University, Ireland, 1953; M.B., B.Ch., B.A.O., 1955; M.A., 1959; M.D., 1961; Ph.D., 1969.
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- SCHERLIS, Irving, Assistant in Urology; A.B., Johns Hopkins University, 1940; M.D., University of Maryland, 1943.
- SCHMEISSER, Gerhard, Associate Professor of Surgery; A.B., Princeton University, 1949; M.D., Johns Hopkins University, 1953.
- SCHWARZ, Herbert, Assistant Professor of Urologic Surgery; B.A., New York University, 1957; M.D., University of Louisville, 1961.
- SETTLE, William Booth, Associate in Surgery; A.B., University of Pennsylvania, 1930; M.D., 1933.
- SHARRETT, John Oliver, Instructor in Neurological Surgery; M.D., University of Maryland, 1952.
- SIWINSKI, Arthur George, Assistant Professor of Surgery Emeritus; A.B., Johns Hopkins University, 1927; M.D., University of Maryland, 1931.
- SMITH, Gardner W., Professor of Surgery; B.A., Princeton University, 1969; M.D., Harvard Medical School, 1956.
- SNYDER, Jerome, Instructor in Otolaryngology; Ph.G., University of Maryland, 1928; B.S., 1930; M.D., 1932.
- SOPHER, Irving, Instructor, Division of Trauma; M.D., University of Maryland, 1966.
- SPENCE, Kenneth F., Jr., Instructor in Orthopaedic Surgery; B.S., Washington and Lee University, 1953; M.D., University of Maryland, 1957.
- STERIOFF, Sylvester, Instructor in Surgery; B.A., Harvard University, 1959; M.D., Washington University School of Medicine, St. Louis, 1963.
- STEWART, Edwin Harvey, Jr., Associate in Surgery; M.D., University of Maryland, 1943.

- STICHEL, Frederick Louis, Jr., Assistant in Otolaryngology; B.S., University of Maryland, 1934: M.D., 1944.
- STRAM, John R., Instructor in Otolaryngology; B.S., University of Maryland, 1957; M.D., 1960.
- SUPIK, William Joseph, Associate in Surgery; B.S., University of Maryland, 1940; M.D., 1944.
- SUTER, Charles M., Instructor in Otolaryngology; B.S.E.E., Drexel Institute, 1964; Ph.D., University of Maryland, 1969.
- TANSEY, John J., Associate Professor of Orthopedic Surgery; A.B., Brown University, 1942; M.D., University of Maryland, 1945.
- THOMPSON, Raymond K., Associate Professor of Neurological Surgery; B.S., University of Maryland, 1937; M.D., 1941.
- TOULSON, W. Houston, Professor of Urology, Emeritus; M.D., University of Maryland, 1913.
- TURNEY, Stephen Z., Assistant Professor of Thoracic Surgery; M.D., Georgetown University, School of Medicine, 1959.
- URBAN, Beth J., Assistant Professor of Otolaryngology; B.A., Arizona State University, 1958; M.A., University of Maryland, 1963; Ph.D., 1968.
- VITEK, Vladimir, Research Assistant Professor; Ph.D., Charles University, Czechoslovakia, 1952.
- VOSHELL, Allen Fiske, Professor of Orthopedic Surgery, Emeritus; A.B., Johns Hopkins University, 1915; M.D., 1919.
- WALTRIP, Marsha A., Instructor in Otolaryngology; B.A., University of Maryland, 1968; M.A., 1969.
- WEINER, Israel Howard, Instructor in Neurological Surgery; B.A., Johns Hopkins University, 1949; M.D., University of Maryland, 1953.
- WEISS, Harold R., Instructor in Orthopedic Surgery; B.S., University of Maryland, 1952; M.D., 1954.
- WENZLAFF, Edward F., Assistant Professor of Orthopedic Surgery; A.B., Columbia College, 1948; M.D., University of Buffalo, 1954.
- WHITE, John P., III, Instructor in Surgery; M.D., University of Maryland, 1947.
- WIEDMAN, Alfred K., Instructor in Orthopedic Surgery; M.D., University of Heidelberg, 1956.
- WILHELMSEN, Hans R., Instructor in Plastic Surgery; D.D.S., University of Maryland, 1955; M.D., 1959.
- WILL, David Reid, Instructor in Surgery; M.D., University of Maryland, 1943.
- YEAGER, George Herschel, Professor of Clinical Surgery; B.S., University of West Virginia, 1927; M.D., University of Maryland, 1929.
- YOUNG, John David, Jr., Professor of Urology and Head, Division of Urological Surgery; B.A., Bridgewater College, 1938; M.D., University of Maryland, 1941.
- ZINN, Waitman F., Professor of Otolaryngology, Emeritus; M.D., College of Physicians and Surgeons, University of Maryland, 1911.

Consultants, Fellows, Research Fellows, and Research Assistants

BLUMENFELD, Walter, Research Assistant, Division of Trauma. HAWTHORNE, Ilse H., Research Assistant in Thoracic Surgery. KIRBY, William H., Jr., Research Associate in Thoracic Surgery. LaBROSSE, Elwood, Research Associate Professor in Thoracic Surgery. MASAITIS, Ceslovas, Research Associate in Thoracic Surgery. MENDONCA, Paulo P., Research Associate in Urology. PADGET, Dorcas H., Research Associate in Neurosurgery. SCANLAN, Elizabeth, Research Associate, Division of Trauma. TINGEY, Henry B., Consultant-Biostatistician in Thoracic Surgery. WHEELER, M. S., Biostatistician, Center for the Study of Trauma.

Organization of the Curriculum and Courses of Instruction

Anatomy	83	Obstetrics and Gynecology 100
Anesthesiology	84	Ophthalmology 101
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Department of Illustrative		Pediatrics
Services	88	Physiology 107
International Medicine	89	Preventive Medicine 108
Medicine	91	Psychiatry 109
Arthritis	92	Radiology 114
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Metabolism	94	Orthopaedic Surgery116, 118
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Physical Diagnosis	96	Thoracic Surgery 119
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Anatomical Hall

ANATOMY

Professors: Figge (Head of Department), Brantigan and Krahl.

Associate Professors: Donati, Mech, O'Morchoe, C.C.C., and Wadsworth.

Assistant Professors: Barrett, Linhardt, Masters, O'Morchoe, P.J., Petersen,

Ramsay and Rennels.

Lecturer: Hearn.

Instructors: Bulmash, Jenci, McFadden, Olivier, Petrali, Ude.

MANA 501. Gross and Clinical Anatomy. (288)

First year, first semester. The course gives the student an opportunity to develop a basic concept of the morphology of the human body. Groups of four students will have the opportunity to dissect the human body. Some lectures will be devoted to roentgen anatomy and some to practical clinical aspects of anatomy.

MANA 502, Microanatomy, (126)

First year, first semester. The course presents an integrated study of the histology and embryology of the human body. Insofar as possible, the course will be correlated with the gross anatomy and neurosciences courses, biochemistry and physiology.

NEUR 503. Neurological Sciences. (144)

First year, second semester. This course forms the basis of all of the neurological subjects taught in all years of the medical curriculum. In the first year it consists primarily of an integrated course in neuroanatomy and neurophysiology with additional contributions from neurology, neuropathology, neurosurgery and electroencephalography. The structure and function of the central nervous system will be presented simultaneously. The course will involve dissections of the human brain, examination of stained microscopic sections of various levels of the brain stem and laboratory experience involving the study of functional aspects of the nervous system.

MANA 505. Genetics. (18)

First year, second semester. This course consists of a series of one-hour lectures which include a consideration of the principles of genetics, biochemical genetics, radiation genetics, immunogenetics, and microbial genetics. Special emphasis is placed on the importance, understanding and application of genetics to health and disease.

MANA 506. Development Anatomy. (18)

First year, first semester. Developmental aspects of the human body will be discussed in correlation with the program of dissection in gross anatomy. This will include demonstrations of clinical material and clinical discussions emphasizing the practical aspects of the subject.

For Graduates

The graduate degrees offered by the Department of Anatomy are the Doctor of Philosophy and the M.D.-Ph.D.

MANA 601. General Anatomy of the Human Body. (9)

Same course as MANA 501, but on a more advanced level. It can be taken by graduate as well as postgraduate students when space is available. Laboratory fee, \$25.00.

(Figge, Krahl, Wadsworth and Staff)

MANA 602. Microanatomy. (6)

Same course as MANA 502, but on a more advanced level. Laboratory fee, \$15.00.
(Figge, Donati, O'Morchoe)

NEUR 603. Neurological Sciences. (4)

Same course as NEUR 503, but with additional work of a more advanced nature. Laboratory fee, \$15.00. (Interdepartmental Committee)

MANA 605. Genetics. (1)

Same course as MANA 505, but on a more advanced level.

(Petersen)

MANA 607. Fetal and Infant Anatomy. (2)

First semester, fifteen periods of three hours each, to be arranged. This course is open to graduate students and postgraduates interested in pediatrics. Laboratory fee, \$10.00.

MANA 608. Special Problems in Neuroanatomy. (2)

The course will deal with specific problems in the field of neuroanatomy, depending on the interests of the sponsor. It will consist of lectures, seminars, and specific laboratory assignments.

(Figge, Staff)

MANA 609. Seminar. (1)

MANA 610. Studies on Normal and Atypical Growth. (2)

Lectures in problems of growth. Two hours per week, time to be arranged. Eighteen weeks. (Figge)

MANA 799. Master's Thesis Research.

Maximum credits, 12. Research work may be taken in any one of the branches of anatomy.

Figge, Staff)

MANA 899. Doctoral Thesis Research.

(Figge, Staff)

ANESTHESIOLOGY

Professors: Helrich and Staff.

During the first two years, the Department of Anesthesiology participates in the lectures, conferences and laboratory exercises of various preclinical departments. Such participation is intended to illustrate the application of basic science principles to the clinical practice of anesthesiology. Emphasis is placed upon the physiologic and pharmacologic basis for preanesthetic medication, choice of anesthesia, and management of patients before, during and after surgery.

ANES 502. Introduction to Anesthesiology.

Fourth year. Each senior student serves a clinical clerkship in the department at the University of Maryland Hospital or one of the Medical School affiliated hospitals. Practical experience is gained in the preparation of the patient prior to anesthesia and surgery, the management of anesthesia, and the postoperative care of the surgical patient. Informal small group sessions are held to emphasize factors affecting anesthetic management and is discuss pertinent anesthetic problems. Experience is provided in management of the unconscious patient, with particular attention to the airway and cardiopulmonary resuscitation. Students attend the regularly scheduled staff conferences of the department.

BIOLOGICAL CHEMISTRY

Professors: Adams (Head of Department), Pomerantz, Frank, Lambooy.

Associate Professors: Kirtley, E. Bucci.

Assistant Professors: C. Bucci, Rao, Black, Labrosse, Tildon.

Instructor: Brown.

Associate: Yanagida, Zervos.

For Medical Students

Biochemistry, an introduction to the later preclinical and clinical subjects, is presented in the first semester of the first year. The course is oriented toward mammalian metabolism and enzymology and those aspects of general biochemistry common to all organisms. Conferences, which emphasize the interface between medicine and biochemistry, are offered throughout the semester. They allow enrichment of the core material and have the added advantage of smaller groups. Periodic reviews of the lectures are also scheduled.

A separate, but closely associated course, Correlative Medicine, brings clinical correlation to the biochemical material in a series of weekly presentations of scientific clinical lectures, sometimes centering about a patient.

All graduate courses as well as research opportunities are open to properly qualified medical students who many enroll either formally or informally.

For Graduate Students

The graduate degrees offered are Doctor of Philosophy and Master of Science.

MBIC 600. Principles of Biochemistry. (5)

This course comprises the lectures and conferences of the biochemistry course given to first year medical students during the first semester. (Staff)

MBIC 601. Principles of Biochemistry and Biophysics. (6)

This course comprises the lectures and conferences of the biochemistry course and the biophysics course given to first year medical students during the first semester. A student may receive credit for JE MBIC 600 or JE MBIC 601 but not both. (Staff)

MBIC 701. Advanced Topics in Biochemistry. (3)

These are courses on special topics of courrent interest in biochemistry. One course will be given each semester with primary emphasis as listed below:

a. Enzymes (Dr. Kirtley)

b. Biochemical genetics (Dr. Black)

- c. Biochemical regulation (Dr. Pomerantz)
- d. Microbial physiology (Dr. Frank)
- e. Physical biochemistry (Dr. Bucci)
- f. Proteins and amino acids (Dr. Adams)

g. Special topics (Staff)

Prerequisite: JE MBIC 600 or 601 or their equivalent.

MBIC 708, 709. Seminar. (1,1)

Reports on current literature or research in progress.

(Staff)

MBIC 799. Research (Master's Thesis).
Maximum credits, 12.

MBIC 899. Research (Doctoral Thesis).

BIOPHYSICS

Professors: Mullins (Chairman of Department) and Sjodin. Assistant Professors: De Weer, Geduldig and Hybl.



First Floor in Davidge Hall

The Department of Biophysics offers graduate courses of study leading to the degrees of Master of Science and Doctor of Philosophy. The study programs are flexible and depend on the preparation and interests of the student. Detailed requirements are available from the department of Biophysics.

It is recommended that students studying for the degree of Doctor of Philosophy in Biophysics select a minor in either physics, chemistry, or mathematics.

A number of fellowships are available for beginning students; after the first year of graduate study, research assistantships are available. Inquiries should be directed to the department; 660 W. Redwood Street, Baltimore, Maryland 21201. Deadline for applications is March 1.

For Graduates

MBPH 600. Introduction to Biophysics. (3)

Fall semester. Three lectures a week. Prerequisites, Chem. 103, 104, Phys. 121, 122, Math 115, 140. An introduction to the study of living systems applying the methods of physics and chemistry. The cell as a physicochemical system and experimental methods for investigation, nerve impulse conduction and excitation, the interaction of radiation with living material; the structure and properties of muscle tissue, connective tissue, and their proteins. (Staff)

MBPH 601. Introduction to Biophysics. (3)

Continuation of MBPH 600. Given when number of students warrants.

MBPH 602. Biophysics of Radiation. (2)

Two lectures a week. An advanced study of the interaction of radiation with living matter and with molecules of biological interest. Dosimetry problems and some biomedical applications will be considered. (Mullins, Sjodin, Robinson)

MBPH 603. Laboratory Techniques in Biophysics. (3)

One lecture and two laboratory periods a week. Prerequisites, JC MBPH 600, 601, or consent of the staff. Training in the use of radioactive isotopes, radioactive counting equipment, and bioelectric measuring instruments applied to the study of membranes; viscosity, optical rotation, protein titrations, spectroscopy, conductivity, as applied to fiber forming proteins. Laboratory fee, \$20.00.

MBPH 609. Seminar in Biophysics. (1)

Prerequisites, MBPH 600, 601, or consent of the staff. Seminars on various biophysical topics given by the staff, graduate students, and guest speakers. (Staff)

MBPH 709. Advanced and Theoretical Biophysics. (3)

Fall semester, odd years. Three lectures a week. Prerequisites, MBPH 600, 601, or consent of staff. An advanced and critical analysis of experimental findings in terms biophysical theory.

(Staft)

MBPH 711. Membrane Biophysics. (2)

Two lectures a week. Prerequisites, Chem. 1, 3, Phys. 10, 11, Math. 20, 21. Diffusion in and through membranes developed from first principles with special reference to problems of ion transport in biological membranes. (Sjodin)

MBPH 713. X-Ray Crystallography. (3)

Three lectures a week. An introduction to molecular structure determination by the techniques of x-ray diffraction. Emphasis upon problems arising in structural studies of molecules of biological origin. (HybI)

MBPH 719. Colloquium in Biophysics. (1)

Prerequisites, MBPH 609 or consent of the staff. Colloquia on various biophysical topics given by the staff, graduate students and guest speakers. (Staff)

MBPH 799. Thesis Research in Biophysics. (Variable credit).

Required of students planning to take Master of Science degree in Biophysics.

(Sta

MBPH 899. Dissertation Research in Biophysics. (Variable credit).

Required of students planning to take the Doctor of Philosophy degree in Biophysics.

(Staff)

CELL BIOLOGY AND PHARMACOLOGY

Professors: Aposhian (Head), Ludlum, Ryser.

Research Associate Professor: Nussbaum (part-time).

Assistant Professors: D. Brown, N. Brown, Burlingham, Qasba.

MCBP 501. Medical Pharmacoloy. (233)

Second year. The purpose of this course is to present the interactions of therapeutic and other agents with biological systems ranging from isolated enzyme systems through more complex systems, including animals and man.

For Graduates

The graduate program in Cell Biology and Pharmacology is designed for students seeking the degree of Doctor of Philosophy. For students studying for the degree of Doctor of Medicine, a program is available for continued study and research toward a Ph.D.

MCBP 601. General Pharmacology. (9)

Same as 501, for students majoring in pharmacology. Additional instruction and collateral reading are required. Laboratory fee, \$20.00.

MCBP 799. Master's Thesis Research.

Maximum credits, 12. Credit in accordance with the amount of work accomplished.

MCBP 899. Doctoral Thesis Research.

MCBP 609. Pharmacologic Methods.

Maximum credits, 4. Credit in accordance with the work accomplished.

MCBP 602, 603. Chemical Aspects of Pharmacodynamics. (2, 2)

MCBP 604. Biochemical Pharmacology. (2)

MCBP 605. History of Pharmacology, (2)

MCBP 606. The Biology of Macromolecules. (4)

ILLUSTRATIVE SERVICES, DEPARTMENT OF

Thomas M. Stevenson, Director

This facility is maintained to supply Audio-visual Aids to Medical School faculty and staff for teaching, research, and publication purposes. The Department also supports student activities which require this type of service. The primary services are: Illustration, Photography, Offset Printing, projection and audio recording.

Illustration

Includes comprehensive renderings of surgical and clinical techniques, anatomical renderings, statistical charts and other graphic representation, simple and comprehensive design and finishing of flyers, brochures, programs, posters, etc. It also includes layout and paste-up for offset printing and photographic copying. In addition this section is responsible for the design and finishing of motion picture titles, displays, and exhibits.

Photography

Photography includes photographic copying of flat material such as written matter, x-rays, laboratory tracings and data, etc. Photography of specimens, equipment setups, surgical, clinical, and laboratory activities. Also, Public Relations, archives, and portraiture for school related purposes. The Department is equipped for photomicrography (large and small format), slide duplication and motion picture photography. The Department further acts as a collecting station for commercial processing of color photography by other departments.

Offset Printing

This section is maintained to furnish volume duplication and facsimile printing, either electrostatically or through photographic enlarging or reduction involving either line or half tone. The plant is also equipped for graphic arts finishing such as collating, folding, stapling, punching, cutting and padding.

Projections

The Department is responsible for the purchase, maintenance, and operation of projection and related audio-visual equipment for use in a number of classrooms and lecture halls. Additional equipment is stored in the Department for use in less organized areas. A room with equipment is available within the Department for reviewing projection material. Audio tape recorders, display easels and other aids are available upon request.

INTERNATIONAL MEDICINE

Professors: Clyde (Head of Department), Barnett, Klimt, McCrumb and Middlebrook.

Associate Professors: Aziz, Baker, Canner, Knatterud and Meinert.

Assistant Professors: Anthony, Aslamkhan, Barry, Bhalla, Krol, Marks, Mc-Carthy and Tominaga.

Research Associate: Sakai

International Centers for Medical Research and Training were created under the aegis of the National Institutes of Health in accordance with objectives of the International Health Research Act of 1960 (Public Law 86-610, July 12, 1960). It was the purpose of this act to advance the status of international health research and research training. Congress further expressed the hope that "a program through United States universities for

the early development of research and research training centers with adequate field opportunities for international studies" would be established. This program under the direction of the Office of International Research of the National Institutes of Health provided for the establishment of a research and research training center at the University of Maryland School of Medicine in Baltimore in March of 1961. The University of Maryland International Center for Medical Research and Training has succeeded in the establishment of domestic and overseas research-training programs in Baltimore, Maryland, and Lahore, West Pakistan, with the following objectives:

- To offer research training in international health problems to American physicians and allied professional workers as well as their Pakistani counterparts.
- To conduct medical and allied research at the domestic and overseas sites.
- To create, through scientific endeavors, an atmopshere of mutual understanding and friendship between the host nation and the United States.

In July of 1963 international health activities of the University of Maryland were consolidated under an Institute of International Medicine with departmental status within the School of Medicine. Under the present administrative arrangement, the International Center for Medical Research and Training forms the nucleus of the Institute into which other international and domestic programs are incorporated.

The Institute of International Medicine is composed of Divisions of Epidemiology and Biostatistics, Experimental Pathology, Medical Entomology and Ecology, and Virus Diseases, and derives support in addition from the Departments of Microbiology and Medicine.

EDUCATIONAL PROGRAM

The Research Associate program of the International Center provides for postdoctoral training in the various disciplines represented within the Institute of International Medicine and affiliated Departments of Microbiology and Medicine. In general, the program encompasses three years, two of which are spent on a field assignment at the Pakistan Medical Research Center in Lahore.

Upon entry into the program each Research Associate works out in advance with his advisor a definitive plan of study and research. Assignment to Divisions and appointment to advisors depends upon the candidate's background, interests, and needs. The global concept of medicine is emphasized and provision is made for more advanced training in specialized aspects of international health. Following a basic orientation course, each Research Associate proceeds into one or another of specialized training areas. During this time he becomes identified with one of the Institute's Divisions and begins preceptor type training through the mechanism of a research project which also prepares the candidate for field work in Pakistan. Postdoctoral candidates with Ph.D., M.D., and D.V.M. degrees enter in one of several specialized programs soon after appointment to the program. These include infectious diseases-microbiology, nutrition, medical entomology, and epidemiology. In many instances overlapping interests will result in combined training and

joint research projects. In some cases, additional clinical training of physician candidates will be considered essential to the success of the overall program.

Applications should be submitted through the Head of the Department.

MEDICINE

Professors: Woodward (Head of Department), Connor, T. Morrison, Revell, H. Robinson, L. Scherlis, V. Smith, Tigertt and Wiswell.

Associate Professors: Barth, Bereston, Borges, Cotter, Eastland, Greisman, Hornick, Karns, Lisansky, Lubash, S. Morrison, Parker, Rapoport, H. Raskin, J. Raskin, R. Robinson, Simpson, Singleton, Snyder, Spurling, Stewart, Togo and Workman.

Assistant Professors: Beacham, Burkle, Calia, Carroll, Cohen, DuPont, Ebeling, Entwisle, Fiset, Guyther, Harmon, Janoski, JiJi, Kerr, Lee, Legum, Lerner, Lewandowski, Libonati, Mead, Merrill, Muller, Pierce, Reiter, S. Scherlis, Smith. Swisher, Wisseman, Zahir and Staff.

MEDC 502. Clinical Clerkship in Medicine.

Third year. This course consists of a clinical clerkship on the medical wards of the University of Maryland Hospital or the Baltimore Veterans Administration Hospital (Loch Raven) for a period of nine weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations, and progress notes of assigned cases. They attend ward rounds and conferences in general medicine with the Resident Staff, Attending physicians and Chief of Service.

MEDC 504. Advanced Clinical Clerkship in Medicine.

Fourth year. Clinical clerkship on the medical wards of the University of Maryland Hospital. Mercy Hospital, Maryland General Hospital, York Hospital, or Baltimore Veterans Administration Hospital (Loch Raven) for four weeks. An additional four-week period may be spent in the Medical Outpatient Department where instruction is given in General Medicine and the medical specialties. The senior students may elect a four week period in cardiology, infectious diseases, gastroenterology, arthritis, radioisotopes, neurology, hematology, endocrinology and pulmonary diseases at any of the above hospitals.

Summer Fellowships

Students who have completed their sophomore year are encouraged to seek additional training during the summer months preceding their junior studies. This training may be obtained in one of several ways. A limited number of students are appointed to clinical Clerkships on the Medical Wards of the University Hospital. In these positions they are responsible, under supervision, for the history, physical examination, laboratory studies, and the progress notes of assigned cases.

In addition, certain of the medical subspecialty divisions provide specialized training for students as Fellows during the summer months. The applicant is encouraged to apply directly to the Division Head. These fellowship enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems and therapeutic regimens peculiar to each of the medical subspecialties. Summer fellowships are available in the following Divisions: Cardiology, (2 appointments), Dermatology (2 appointments), Endocrinology (2 appointments), Gastroenterology (2 appointments), Hematology (2 appointments), Renal Hypertension (2 appointments),

Infectious Diseases (2 appointments), Arthritis (1 appointment), Radioisotopes (1 appointment), Pulmonary Diseases (2 appointments), and Clinical Physiology (2 appointments). Interested applicants should contact the respective Division Head prior to January 1 of the year in which the fellowship is desired. In many instances a fellowship award is made providing remuneration for two or three of the summer months.

Postgraduate Fellowships:

These are available in the various specialties of Medicine. For details see specific division.

The Department of Medicine, for administrative purposes, is divided into ten Divisions. Each of these Divisions participates in the major courses taught by the Department. In addition, a number of specialized courses and post-graduate fellowships are offered by the Divisions.

DIVISION OF ARTHRITIS:

Doctors: Barth (Head of Division), Kochman and Staff.

ARTH 505. Division Rounds. Third year. Elective.

ARTH 505A. Outpatient Clinic.

Fourth year. Elective. Weekly arthritis outpatient clinics and attendance at weekly arthritis seminar and rounds.

DIVISION OF CARDIOLOGY:

Doctors: L. Scherlis (Head of Division), Antlitz, Dembo, Gonzalez, Lee, Salan, S. Scherlis, Singleton, Swisher and Staff.

PDIA 500. Introduction to Medicine (Physical Diagnosis).

First year: The Division of Cardiology participates in presenting this course. Second year: The Division of Cardiology participates in presenting this course. Subject Systems Teaching.

Second year: Two weeks of Cardiovascular System teaching are presented in the Second Year. This consists of lectures, seminars and demonstration.

CARD 506. Cardiology.

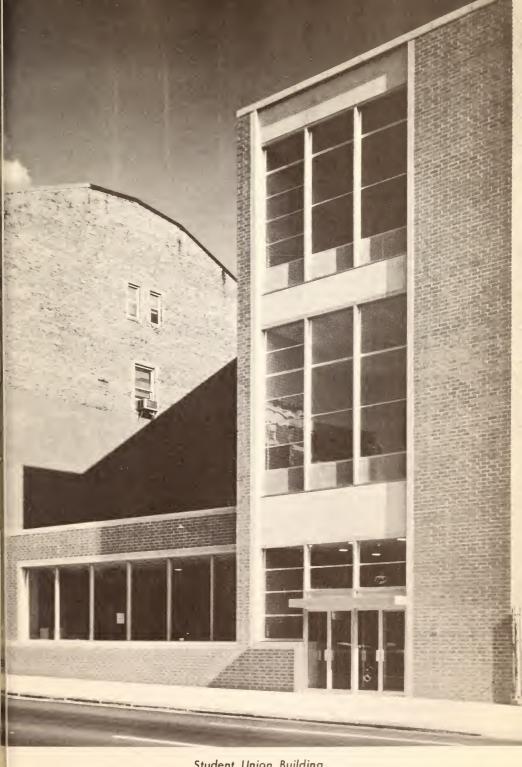
Fourth year. Elective. This is an introductory experience of one month consisting of participation in the clinical activities of the Division. This includes electrocardiography, cardiac catheterization, phenocardiography, case presentations, and rounds.

CARD 506A. Outpatient Clinic and Division Rounds.

Fourth year. This is an elective experience consisting of weekly clinics meeting twice weekly and scheduled conferences.

Fellowships

These are available to selected postgraduate applicants. The Fellow participates in the activities of the Division, including cardiac catheterization, electrocardiography, phonocardiography, and vectorcardiography. Research Fellowships are also available. The fellowship begins July 1st of each year. A financial stipend is provided. Application is made through the Head of the Division and must be completed by October of the preceding year.



Student Union Building

A limited number of student fellowships are available. These are funded and consist of either experiences in clinical investigation or laboratory research.

DIVISION OF DERMATOLOGY:

Doctors: H. M. Robinson, Jr. (Head of Division), Bereston, Burnett, Pass, J. Raskin, R. C. V. Robinson, Shapiro, Silverstein, Sina, Stone, Tudino and Yaffe.

DERM 507. Introduction to Dermatology.

Third year. Students are given assigned reading on the more common skin eruptions. Nine two hour clinical sessions are held for each quarter of the junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis.

DERM 508. Practical Exercises in Dermatology.

Students may elect dermatology for a period of not less than 4 weeks. They may elect to spend the entire day, and if so, will be given instruction in the dermatologist's private offices, the research laboratories, and the dermatology patient service laboratory during the morning hours. In the afternoon, they will participate in the clinical activities and attend the seminars held for the graduate students. Those who elect dermatology for half day sessions will attend the afternoon clinic and the seminars. Emphasis is laid on the relationship of various cutaneous eruptions to systemic conditions, diagnosis, and treatment.

Graduate Training:

The Division of Dermatology is approved by the American Board of Dermatology for the three years of training which is required by the Board for certification. This consists of instruction in the basic sciences (mycology, bacteriology, histopathology, chemistry, and physiology), and instruction in clinical dermatology. Emphasis is placed on the relationship of cutaneous lesions to systemic diseases. Residents and Fellows spend a part of the training period at the Rosewood School for Retarded Children, Veteran's Administration Hospital, Mercy Hospital, and in private offices of the members of the staff. Temporary membership in the dermatologic societies is provided under the sponsorship of the Division Head.

DIVISION OF ENDOCRINOLOGY AND METABOLISM:

Doctors: Conor (Head of Division), Janoski, Martin, Wiswell and Workman. CLINICAL ELECTIVE—Fourth Year Students.

Four week course consisting of a concentrated period of training devoted mainly to the study of clinical disorders of endocrine function with special emphasis on the physiologic and biochemical basic for these disturbances. Students work with both hospitalized and ambulatory patients under the supervision of a Senior Staff Member.

A 12-16 week elective period is also offered to selected students interested in pursuing a specific research project under the supervision of a Staff Member.

Summer Fellowships

These are offered for 12 weeks to any qualified medical student and may be designed with major emphasis on clinical or basic research experience depending on the interest and capabilities of the student.

Post-Doctoral Fellowships

Full-time positions are available to selected post-doctoral candidates who have usually completed two or more years of house officer training. Fellows participate in on-going research projects and independent investigations are encouraged. These trainees also participate in all clinical activities within the Division. A financial stipend is provided. Applications may be made through a senior Division member.

Activities

Weekly outpatient endocrine clinic, conference and ward rounds. Daily followup of all inpatients with endocrine problems. Frequent seminars and discussion of endocrine topics. Monthly journal club.

NUCLEAR MEDICINE

Dr. Workman (Head)

PHARMACOLOGY

Second year. In cooperation with the Department of Pharmacology, a portion of one laboratory session is utilized to demonstrate the accuracy of a radioisotope method of estimating thyroid function.

NMED 510. Fourth Year Elective (Conference Nuclear Medicine).

A Postgraduate Fellowship is available to applicants who have completed internship and at least one year of residency training. Opportunities for active participation in clinical and research activities are available. Independent research investigations are encouraged. A financial stipend is provided. One full-time fellowship is available.

DIVISION OF GASTROENTEROLOGY

Doctors: H. Raskin (Head of Division), V. Smith, D. Wentz, W. Inayatullah, R. Dureza, and Staff.

The Division of Gastroenterology presents a concentrated two weeks course in applied basic science to gastrointestinal disorders in the sophomore year. Weekly G.I. conferences are held including a combined G.I.-Radiology meeting and a combined G.I.-Pathology session. The outpatient clinic meets every Thursday. An endoscopic clinic is held three mornings a week and a proctoscopic clinic is also held once a week.

Fellowships

Senior students wishing to take an elective month of gastroenterology are welcome. Summer student fellowships are available. Those interested in a two year postgraduate fellowship should apply to the Head of the Division.

DIVISION OF HEMATOLOGY:

Doctors: Spurling (Head of Division), Jiji, Serpick, Zahir, Gutterman and Staff.

Second Year. Members of the Division are responsible for the first semester part (hematology) of the Sophomore course in Clinical Pathology. Clinical

and laboratory aspects of blood dyscrasias are covered with an introduction to blood group immunology.

Fourth Year. Elective

The Division offers a 4-week experience in clinical hematology with student participation in consultations, ward rounds, weekly conferences and outpatient clinic.

Fellowships

At least one full-time fellowship in hematology is available to applicants with a minimum of one year internship. A stipend is provided. Two summer fellowships are offered to medical students interested in either clinical experience or research projects.

DIVISION OF INFECTIOUS DISEASES:

Doctors: Hornick (Head of Division), DuPont, Libonati, Calia, L. Fiset, Rapoport, M. Snyder, Togo and Staff.

Conferences are held every Thursday afternoon dealing with selected topics in Infectious Diseases to which students are invited.

Clinical Elective

Special programs are provided for senior students during their elective periods.

Postgraduate Fellowships

The division sponsors four Fellows who receive instruction in laboratory techniques and clinical investigation. Fellows participate in all functions of the division, including collaboration in investigative problems. A financial stipend is provided. Application is made through the Head of the Division.

Student Fellowships

The division offers two fellowships for support and supervision of students throughout their medical school career. These fellowships provide special instruction and experience in infectious diseases. Application is made through the Head of the Division.

DIVISION OF INTRODUCTION TO MEDICINE (PHYSICAL DIAGNOSIS)

Doctor: Medical Staff.

PDIA 500. Introduction to Clinical Medicine.

Second year: Early in the year whole class instruction is given in the techniques of elaborating the clinical history and in performing the physical examination. Small tutorial groups are formed each under the direction of an instructor. During the first five weeks experience in examination of normal individuals is given one afternoon weekly.

During the remainder of the year, students become acquainted with abnormal signs through examination of hospitalized patients. This practical instruction includes children and patients with neurologic disorders with instruction provided by members of the Department of Pediatrics and Neurology, respectively. Members of the Division of Cardiology provide instruction in physical examination of the Cardiovascular system.

DIVISION OF PULMONARY DISEASES

Doctors: Simpson (Head of Division), Kerr, Rusche, Marine, Hayes, Moodie, Chun, Austin, Twining and Staff.

PULM 513. Teaching in Respiratory Diseases.

First Year: Members of the division take part in the teaching of the physiology course with emphasis on the clinical application of basic respiratory physiology. This includes an introduction to clinical medicine.

Second Year: During the subject system portion of the second semester a period of two weeks is devoted to the respiratory system. The teaching of clinical medicine is integrated with epidemiology, pharmacology, microbiology and closely correlated with the teaching of physiology and pathology. This does not attempt to provide a course in Respiratory Diseases but the most common and most important groups of diseases are included.

Third Year: A medical respiratory disease unit provides for the admission of patients with pulmonary tuberculosis and other respiratory diseases is available for the teaching of students during their clinical clerkship. Students are supervised and taught by residents, fellows and faculty members within the division and attending physicians in the Department of Medicine. During their rotation to the unit, students attend the chest clinic on one afternoon each week where they are exposd to patients with a variety of respiratory diseases including tuberculosis.

Fourth Year: An elective period of 4 weeks (or multiples of 4 weeks) is available. The course is designed to provide teaching in the clinical aspects of respiratory diseases including roentgenographic interpretation and the measurement and evaluation of physiologic function as these relate to clinical problems. Methods of intensive respiratory care are taught. Experience in the diagnosis and management of ambulatory patients with respiratory diseases is available in the Western Chest Clinic.

Summer Fellowship

This program provides an opportunity for intensive instruction in the subspecialty. Six to eight students are awarded fellowships each summer. The course is conducted over a period of 10 weeks and each student is expected to be present during 8 weeks, at least. One of two students are accepted from the Freshman Class, 2 or 3 from the Junior Class and the remainder from the Sophomore Class.

The principal objective of the program is the correlation of structure and function. The clinical aspects of respiratory diseases are related to the roent-genographic, physiologic and pathologic findings. Patients are available at the University of Maryland Hospital, the Baltimore Veterans Administration Hospital (Loch Raven), at other affiliated hospitals, and at Western District Chest Clinic. Methods of measurement of physiologic function are taught and students have an opportunity to take part in the performance of routine testing. The instructors are faculty members and post-doctoral fellows within the division, members of the staff of affiliated hospitals and guests.

The program is clinically oriented. Research is not mandatory but is en-

couraged. A library project is required. A report of each project is presented to the entire group and a monograph with appropriate bibliography is submitted.

MICROBIOLOGY

Professor: Wisseman (Head of Department).

Professor: Traub.

Associate Professor: Eylar, P. Fiset, Kessel and M. Snyder. Assistant Professors: McCrumb, Myers, Osterman, Rosenzweig.

Assistant: Walsh.

The Department of Microbiology offers the degree of Doctor of Philosophy. While the degree of Master of Science may be offered in special instances, priority for research facilities will be given aspirants to the Doctor of Philosophy degree. This Department encourages students who wish to enroll in the combined Doctor of Medicine-Doctor of Philosophy degree program.

Emphasis is placed upon medical aspects of microbiology. Research programs are available in virology, rickettsiology, medical bacteriology, immunology, and microbial physiology. Opportunities are open for experience in teaching and in diagnostic bacteriology and serology. Opportunites exist for ecological studies on rickettsioses and arboviruses in overseas areas.

Medical Students, For Graduates and Advanced Undergraduates

MMIC 501. Medical Microbiology and Immunology. (8)

First semester. Four lecture hours and eight hours in laboratory and group conferences per week. This course begins with an introduction to basic principles of microbiology and immunology and then proceeds to consider the major groups of bacteria, spirochetes, fungi, rickettsiae, viruses and parasites that cause human disease. Emphasis is placed upon an analysis of the properties of microorganisms thought to be important in disease production, pathogenesis of infection and interaction with host defense mechanisms, epidemiology and control measures. (Wisseman, Staff)

For Graduates

MMIC 601. Medical Microbiology and Immunology. (8)

First semester. Four lecture hours and eight hours in laboratory and group conferences per week. This course, intended for the serious advanced student of medical microbiology, is built upon the framework of MMIC 501 supplemented with advanced readings and laboratory work.

(Wisseman, Staff)

MMIC 710. Microbial Physiology. (3)

Second semester, alternate years. Three lectures per week supplemented with demonstrations. By consent of instructor. This course surveys the metabolic processes of bacteria, fungi, rickettsiae, viruses and parasitic protozoa. (Myers, Wisseman)

MMIC 708. Seminar. (1)

First and second semesters. One session per week. Graduate students, staff and guests participate in comprehensive and critical reviews of subjects of special interest or pertinent to graduate training program. (Staff)

MMIC 709. Special Topics.

(Permission and credit arranged individually.) This course provides the opportunity for

the graduate student to pursue under supervision subjects of special interest not offered in other formal courses. A study program is worked out with the instructor prior to registration and may consist of special readings, conferences, reports and, on occasion, laboratory experience.

(Staff)

MMIC 801. Advanced Virology and Rickettsiology Lecture. (3)

This course considers the general properties of viruses and rickettsiae, methods for studying them and finally concentrates on agents of medical importance. Special emphasis is placed on the host-parasite relationship, characterization of the various viral and rickettsial agents and on biological and ecological factors. Registration is by permission of instructor only. The course will be given on the average in alternate years in the Spring semester. There are two weekly sessions of 90 minutes each. Prerequisite, MICB 201 or equivalent. (Eylar, Fiset, Wisseman, Staff)

MMIC 802. Virology and Rickettsiology Laboratory. (1)

This course is the laboratory counterpart of MMIC 801. The laboratory consists of two formal sessions per week; and frequently requires additional participation throughout the week. Registration is by permission of instructor only.

(Eylar, Fiset, Wisseman, Staff)

MMIC 803. Microbiology: Advanced Immunology. (3)

This course will consider in detail areas of immunology that are currently subject to the most active investigation. Special attention will be paid to four areas of immunology; 1) the structures of antigen and antibody molecules and the nature of the interactions between them, 2) the process of antibody formation including the anatomy and physiology of antibody forming tissues, and the nature of the controls on antibody synthesis, 3) immunopathology with special reference to the phenomena of autoimmunity, 4) delayed hypersensitivity reactions with special reference to host resistance and to problems of transplantation immunology. The course will be given on the average every two years in the Spring semester. These will be two weekly sessions of 90 minutes each. Prerequisite, Microbiology 201 and/or permission of the instructor. (Fiset, Kessel)

MMIC 804. Microbiology: Advanced Immunology Laboratory. (2)

This course is the laboratory counterpart of MMIC 803. The laboratory consists of formal sessions plus the additional participation of students throughout the week.

Registration is by permission of the instructor only. (Fiset, Kessel)

MMIC 799. Master's Thesis Research.
Credit arranged.

(Staff)

MMIC 899. Doctoral Thesis Research.
Credit arranged.

(Staff)

NEUROLOGY

Professors: Nelson (Head of Department), Merlis, Mayer and Van Buskirk.

Associate Professors: Heck and Teitelbaum.

Assistant Professors: Kramer, Mosser, Price, Oleynick and Sutton.

Instructor: Hulfish.

Neurological Sciences I—Lecture demonstrations of clinical cases constitute an integral part of this course. There is emphasis on correlation of anatomy and physiology with clinical material.

Neurologic aspects of physical diagnosis are taught in both the first and second year of medical school, with instruction in performance of the normal neurologic examination as well as examination of selected patients with neurologic disorders.

Neurosciences II—In conjunction with the Department of Pathology, a correlative course is given in the second year of medical school in which pathology of the nervous system is correlated with clinical disease.

NEUR 503. Clinical Clerkship in Neurology.

In the third year, a portion of the class may select a clerkship on the Neurology ward of the University Hospital or the University Hospital private service for a period of three weeks. Under house staff and attending staff supervision, the students are responsible for the care of patients with neurologic disease. They may assist in the performance of some procedures and attend rounds and conferences in Neurology. A didactic series of 12 lecture-demonstrations is given to these students as well as those who are serving a concurrent clerkship in the Department of Psychiatry.

NEUR 504.

In the fourth year, a clinical elective time of four weeks may be spent in the Department of Neurology at the University of Maryland inpatient services, outpatient services, or at Montebello State Hospital or York Hospital. Selected students may serve from two to four months elective periods in one of the departmental research laboratories.

FELLOWSHIPS

Students who have completed their first, second, or third years and have an interest in neurologic sciences may apply for additional training in clinical neurology or in one of the research laboratories of the Department of Neurology. Qualified students may receive remuneration as fellows for the ten week fellowships.

POSTGRADUATE PROGRAM

There is a fully approved three year program for special training in Neurology at the University Hospital. This provides for clinical training as well as rotation through the associated basic science disciplines. Fellowships with a stipend are provided and begin July 1 each year. Formal didactic sessions in neuroanatomy, neuropathology, neurochemistry, neurophysicology, neurophthalmology, electroencephalography, and nerve and muscle diseases are organized on a regular basis for the fellows and house officers. There are also a regular series of weekly conferences and formal and informal rounds. For further information, contact the department chairman.

OBSTETRICS AND GYNECOLOGY

Professors: Haskins (Head of Department), Kaltreider and Allen.

Associate Professors: Middleton, Munford, VillaSanta, Rimer, Ances and Durkan.

Assistant Professors: Moszkowski and Perticucci.

Assistant Clinical Professors: Davis, Diggs, Dixon, Dumler, Kardash, Martin, Seegar and Staff.

OBST 501. Clinical Clerkship in Obstetrics and Gynecology.

Third Year: Students are assigned to Obstetrics and Gynecology for a period of six weeks. As clinical clerks they participate in the original diagnostic studies, pelvic surgical procedures and postoperative care of hospitalized patients. Instruction in pernatal and gynecologic outpatient care is accomplished in the Outpatient Department.

Daily seminars and/or departmental conferences with the attending staff and house officers are useful mechanisms for teaching the art of correlating observations, diagnosis and therapy. Frequent and close contact with faculty staff is achieved by means of a preceptorial system which assigns a group of two or three students to a member of the faculty for the entire clerkship.

As an alternative to the clerkship at the University of Maryland Hospital, similar in-

structional programs are offered to a limited number of students by the Departments of Obstetrics and Gynecology at Mercy Hospital and Baltimore City Hospitals.

OBST 502. Elective Advanced Clinical Clerkship in Obstetrics and Gynecology.

Fourth Year: Students may select a four or an eight week program in Obstetrics and Gynecology. The program is arranged according to the individual need or interest of the student. He may elect a general experience or may intensify an area of his choice by spending most of his time in one activity such as cancer, endocrinology, delivery area, reproduction laboratory, ambulatory OB-GYN or hospital gynecology. OB-GYN programs may be elected at University of Maryland, Mercy or Baltimore City Hospitals.

OPHTHALMOLOGY

Professors: Richards (Head of Department) and Michaelis.

Associate Professors: Fox, Schocket and Young.

Assistant Professors: Braver, Creamer, Feinberg, Goldberg, Meisels and Ross.

Instructors: Ehrlich, Kasper, Katzen, Kohlhepp, Kronthal, Leffler, Lipson, Miller,
Ortel and O'Rourk.

OPHT 580. Introduction to Ophthalmology.

Fourth Year. A combined seminar and out-patient course over a two week period to cover the fundamentals of clinical Ophthalmology. The basic aspects of Ophthalmology are covered with a programmed textbook and seminars in the morning, and clinical experience in ocular examination is obtained in the Out-Patient Department in the afternoon.

OPHT 581. Clinical Clerkship in Ophthalmology.

Fourth Year. A four week elective period is available for Senior students in clinical Ophthalmology. The time is divided between the Ward and the Out-Patient Department. Emphasis is on the clinical application of knowledge in Ophthalmology.

PATHOLOGY

Full Time Staff

Professors: Trump (Head of Department), Firminger, Middlebrook, Tigertt, Wagner and Wood.

Associate Professors: Garcia, Ginn, Ming, S. C., Rasmussen, Reuber and Spurling.

Assistant Professors: Arstila, Dawson, Hendrickson, Knoblock, Lipkovic, Masters, Mergner, Ming, P. M., Shin and Zahir.

Instructors: Calderon and McDowell.

Clinical Staff (Visiting)

Professors: Fisher, Koss, Merkel, Schultz and Wright.

Associate Professors: Freimuth, Lindenberg, Reimann, Spitz and Toll.

Assistant Professors: Adams, Bhagavan, Breitnecker, Cranley, Grossman, Guerin, Hameli, Hicken, Kiefer, King, Lancaster, Mihalakis, Oster, Passen, Petrucci, Saladino, Schweda, Sherrer, Springate, Taylor and Zussman.

General Explanation

The Department of Pathology at the University of Maryland has as its primary goal instruction for the understanding of human disease with emphasis on mechanisms of disease and changes occurring at the subcellular level and in molecular terms.

This goal of education in pathology has three phases: 1. To permit students to acquire the basic principles of pathology and to apply those principles to the diagnosis and study of health care delivery as expressed in diagnostic areas such as surgical pathology, clinical pathology, cytology, forensic pathology and autopsy pathology. 2. To establish a philosophy of critical evaluation and judgement concerning the problems of health and disease in humans. 3. To develop feelings of personal responsibility and ethics for the practice of medicine.

The philosophy of the department is that study of disease includes both structure and function and is carried out from the level of the patient to the molecular level.

The Department includes the following divisions: Autopsy Pathology; Surgical Pathology; Cytology; Neuropathology; Forensic Pathology; Clinical Pathology and Experimental Pathology.

For Medical Students

Instruction in the various aspects of nosology and disease mechanisms is carried out in PATH 501, CPAT 502 during the second year, and NPAT 503, 504 in years one and two, respectively.

In the fourth year students may elect to spend 1-3 months (or with approval as many as nine months) in the department. During this time the student participates in various courses and activities of the department including the attending of courses offered for graduate students or in advanced training for residents and fellows. A list of these is given below.

For Graduate Students and Medical Students Interested in a Career in Pathology

The department has training programs for pre- and post-doctoral students leading to careers in investigative academic pathology. In general, these programs are integrated with training in all aspects of human disease, and all of the courses and conferences mentioned below are available for medical students. The student may, for example, elect to take a post-sophomore fellowship in the Department of Pathology or elective courses during their elective medical school years.

Students with a B.A. or B.S. from an approved college or university who have been accepted by the Graduate School are eligible to take a number of courses listed below for credit towards a Masters of Science or Doctor of Philosophy degree.

These various programs are also open to individuals who have the M.D. degree, the D.V.M. degree, the D.D.S. degree, or the Ph.D. In these programs the emphasis is on investigative aspects of pathology, though, in all cases it is emphasized that the individual must be trained in all aspects of human disease, including anatomic and clinical pathology.

PATH 501. General, Systemic and Experimental Pathology. (272). Nine hours credit.

Doctors: Trump and Staff.

Second Year. This course starts with the study of the basic principles of pathology and progresses with the study of diseases of the various organ systems. In the second semester instruction in diseases of the organ systems is closely correlated with other departmental offerings and Introduction to Mechanisms of Disease through the Subject Systems Committees. Teaching is chiefly by the case method using fresh and fixed autopsy cases but also utilizes gross museum specimens and a set of prepared selected histologic slides. Students assist in the performance of autopsies in small groups, prepare final protocols, and present the findings and interpretation of the cases to others in the class.

In addition a block of time devoted to basic forensic pathology is incorporated in the second year course. Included in the course is an introduction to experimental pathology by two experiments illustrative of basic pathologic principles.

CPAT 502. Clinical Pathology. (128). Three hours credit.

Doctors: Tigertt and Staff.

Second Year. The course is designed to train the student in the performance and interpretation of the fundamental laboratory procedures used in clinical diagnosis. During the first semester the basic techniques of hematology as well as clinical aspects of blood diseases are taught. Blood group immunology in relation to transfusion is also covered. In the second semester the performance and interpretation of tests used in the diagnosis of renal, hepatic gastric, pancreatic, and metabolic diseases are considered. A review, with clinical applications, of acid-base balance and electrolyte disturbances is included. Methods of examination of cerebrospinal fluid, transudates and exudates are taught. Elements of clinical parasitology complete the work in this semester.

Each student provides his own microscope and blood counting equipment. A completely equipped locker is provided for each student.

NPAT 503, 504. Neurologic Sciences.

Doctors: Wagner, Garcia and Staff.

Neuropathology is taught as a part of Neurologic Sciences Curriculum. All aspects of the neurologic sciences are covered in an expanding manner during the first and second years, respectively, as follows:

NPAT 503: correlative illustrations are presented as principal anatomic areas are studied. Illustrative material is presented in the section on Clinical Anatomical Correlation.

NPAT 504: a complete course of basic lectures in Neuropathology, with demonstrations of typical neuropathologic lesions and clinicopathologic case studies.

Electives and Graduate Courses:

PATH 508. Advanced General Pathology. Semesters 1 and 2, and Summers. (1-6) This is an intensive experience in the principles of human pathology as studied at the autopsy table and in the clinical pathology laboratory. Students are expected to operate semi-independently with, however, close tutorial supervision and to present the results of the intensivations of the property of

the results of their investigations at weekly conferences. This course is primarily designed for medical students and for pre-doctoral graduate students.

PATH 509. Surgical Pathology. Semesters 1 and 2 and Summers. Every Year. (1-4)
This course consists of didactic and practical experience in disease as expressed in
tissues removed at surgery and examined in the surgical pathology laboratory. The
course emphasizes independent work by the student in terms of analyzing disease
processes expressed in this way.

PATH 510, 511. Sub-cellular and Molecular Pathology. (2, 2)

This is a two semester course which is held every year and which exposes the student to the general principles of cellular pathobiology, emphasizing structural and functional aspects of all general processes fundamental to pathology.

- PATH 512, 513. Instrumentation 1. Light and Electron Microscopy. Every other year. (2, 2)
 This is a course designed to teach the student the fundamentals of optical instrumentation, including consideration of bright field light microscopy, phase microscopy, fluorescence microscopy, polarization and interference microscopy, transmission and scanning electron microscopy, and specimen preparation for electron microscopy, including thin sectioning, negative staining, freeze etching and shadow casting, scanning electron microscopy, optical processing of electron microscopic images, and principles of vacuum technique.
- PATH 514, 515. Instrumentation II. Chemical Instrumentation. Every other year. (2, 2)
 This is a course designed to teach the principles of chemical instrumentation, including modern methods of analytical chemistry, as well as methodology as related to protein chemistry and biomolecular conformation.
- PATH 516. Enzymatic and Determinative Histochemistry. Every other year, beginning September 1972. (2)

In this course the student is taught the principles of and practice of histochemistry for light and electron microscopy, including methods for demonstration of major carbohydrates, proteins, nucleic acids, and lipids as well as enzyme histochemistry. In addition, consideration is given to other methods of localization such as the electron probe, and x-ray spectroscopy.

PATH 517. Immunopathology, Every Year. (2)

In this course the fundamentals of immunology as they relate to pathology are considered. Specifically, attention is directed toward the pathogenesis of those diseases that are related to immunologic mechanisms. Included are aspects of immunological techniques.

PATH 518. Research Seminar. (1)

These include seminars in cellular pathobiology, experimental pathology, and electron microscopic investigations.

PATH 520. Colloquia in Human Disease. (1)

This is a weekly conference in which members of the faculty and house staff, as well as visiting investigators present results of their current investigative efforts. Because of the diverse nature of the group, and because of the resources of the Baltimore area, these colloquia consider over a year's time most aspects of modern pathology.

- PATH 799. Master's Thesis Research.
- PATH 899. Doctoral Thesis Research.

This consists of research experience in the various laboratories.

LMED 601. Legal Medicine. (1)

One hour lecture per week for 12 weeks, with four hours of assigned reading. This course embraces a summary of medical jurisprudence including the laws governing the practice of medicine, industrial compensation and malpractice proceedings in criminal and civil prosecution, medical evidence and testimony including medico-legal toxicology.

(Fisher, Freimuth, Spitz)

LMED 602. Toxicology. (10)

Two hours of lecture per week, and 8 hours of laboratory per week for one year. This course is devoted to discussions of the mechanism of action of poisons, lethal doses, antidotes, and methods of detection, and quantitation of poisons in tissues and body

fluids. The laboratory work embraces practical applications of analytical procedures for the detection and estimations of poisons in post mortem tissue samples. There is also included some discussion of industrial toxicology, relating industrial exposures to toxic substances to effects produced in the worker using these materials.

(Fisher, Freimuth)

LMED 603. Gross Pathologic Anatomy as Related to Toxicology. (2)

Two hours per week for one year. This course includes elementary anatomy with normal histology and selected histopathology as it will be seen by the toxicologist. It is a correlated course embracing anatomy, physiology, and the alterations in function and structure brought about by disease poisoning. (Fisher, Spitz)

LMED 799. Master's Thesis Research. LMED 899. Doctoral Thesis Research.

PEDIATRICS

Professors: Cornblath (Head of Department), Bradley (Emeritus), Clemmens, Finkelstein, Heald, Hepner, Kaplan, S. Scherlis, Walker and Weaver.

Associate Professors: Baldwin, Glaser, Glick, Gorten, Kappelman, Lentz, Lyon, Raiti, Stine, Tildon and Wells.

Assistant Professors: Ault, Balis, Caplan, Fineman, Fox, Gilman, Grant, Gutberlet, Heldrich, Hopkins, Hudson, Irwin, Jensen, Kaiser, Kenny, Lasson, Lifshitz, London, Maher, Mosser, Nair, Seabold, Sigman, Sila, Ventling, Wapnir and White.

PEDI 501. Junior Clerkship.

Third Year. Students are assigned as clinical clerks for a period of 6 weeks at the University of Maryland Hospital, Mercy Hospital, Baltimore City Hospital, or Sinai Hospital. In each of the aforementioned teaching areas, they are given clinical exposure and experience on the Pediatric wards, in the Pediatric Ambulatory area, and in the nursery area. When the student is on the wards, rounds are attended daily. When the student is in the Out-Patient Department, full-time and part-time Pediatric attending staff will consult with them on each patient seen. Full-time nursery medical personnel are available to make rounds during their time in the nursery. The students are assigned tutors who meet with their students twice weekly or more in each of the hospital settings.

Regularly scheduled conferences are held covering x-ray diagnosis, cardiology, journal reviews, chart conferences, neonatal mortality, case discussions and metabolic diseases. Discussions cover concepts of the pathaphysiology and therapeutic management of Pediatric patients. The total impact of the illness on the child and family complex is emphasized and the student is encouraged to become familiar with all of the social aspects of Pediatric practice.

PEDI 502. Senior Pediatric Elective.

Fourth Year. The fourth year experience in Pediatrics is totally an elective one. Students may select from a variety of experiences either locally or in out of state or out of country hospitals ranging from in-patient junior internships to ambulatory care of children in community Pediatric centers or the Pediatric clinics in the Out-Patient Departments. The nature and localities of assignments are determined by individual interview between the student and a faculty advisor and depends upon student interests and previous performance.

PEDI 503. Laboratory Research Problems in Pediatrics.

Second year. Elective. Students will be required to set up laboratory procedures to be



Emergency flown in by Air Ambulance at Heliport

used by them in the study of a research problem. Problems will be selected in order that a fairly complete project can be done by the students in their elective time over a period of one year. Emphasis will be made on the accuracy and reliability of standard techniques, as applied to the detailed analysis of their research problem.

PHYSIOLOGY

Professors: Blake (Head of Department), Adelman, Barraclough, Pinter and Shock.

Associate Professors: Fajer, Glaser, Goldman, Greisman, Karpeles, Merlis and Ruchkin.

Assistant Professors: Blaumanis, Fertziger, Haller, and Jurf.

MPHY 501 consists of lectures, demonstrations, laboratory work, and conferences amounting to about 12 hours a week throughout the second (spring) semester.

The lectures cover the principles of physiology. Demonstrations and laboratory work relate clinical and physiological techniques to these principles. The conferences are used for open discussions among clinical and preclinical faculty and students. Weekly review sessions are also held.

Neurosci. 503 correlates the study of neuroanatomy with neurophysiology and introduces related clinical material in lecture and laboratory work. (See Anatomy.)

Lectures in abnormal human physiology are presented in the second year.

Advanced seminars (see below) and/or research in special areas of physiology are open to interested students who have completed the first year.

Combined M.D.-M.S. and M.D.-Ph.D. programs, requiring additional course work and original research, are offered for highly qualified students.

For Graduate Students

The several graduate programs in Physiology are designed for students oriented toward careers in mammalian physiology, biomedical engineering, or academic medicine. Background in mathematics, physics, and chemistry is considered essential and ordinarily only those wishing to complete the requirements for a Ph.D., M.D.-Ph.D., or M.D.-M.S. degree will be considered. Interested students are invited for additional details.

Graduate students majoring in physiology will ordinarily be expected to take MPHY 601 and NEUR 503 and those advanced seminars that are pertinent to their areas of interest. Additional course work in anatomy, biophysics, biochemistry, pharmacology, mathematics, and/or physics complete the minor requirement.

Advanced courses offered by the Physiology Department include:

MPHY 601 (9) similar to MPHY 501 but with additional reading and conference work.

Neurosciences 615 (4) similiar to Neurosci. 503 but with additional reading and conference work.

MPHY 501. Principles of Physiology.

MPHY 601. Principles of Physiology. (9)

MPHY 602. General Physiology. (3)

MPHY 603. Cardiovascular Physiology. (2)

MPHY 604. Pulmonary Physiology. (2)

MPHY 605. Physiology of Kidney and Body Fluids. (2)

MPHY 606. Physiology of the Central Nervous System. (2)

MPHY 607. Physiology of the Autonomic Nervous System. (2)

MPHY 608. Seminar. (1)

MPHY 609. Physiological Techniques. (1-6)

MPHY 610. Physiological Systems. (3)

MPHY 611. Sensory Physiology. (2)

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MPHY 612. Physiology of Reproduction. (2)
MPHY 613. Seminar in Neuroendocrinology. (2)
MPHY 614. Comparative Adrenal Physiology. (2)
MPHY 799. Thesis Research. (Master's Level).
MPHY 899. Dissertation Research. (Doctoral Level).

PREVENTIVE MEDICINE

Professors: Entwisle (Head of Department), Henderson and Tayback.

Associate Professors: Hebel, Kessler, Kuller, Matanoski, Reed. Assistant Professors: Apostolides, McDill, Sherwin, Stewart.

Instructors: Herbert, List, Novak.

For Medical Students

PREV 500. Introduction to Community Medicine. (18)

First year, first semester course. To identify: health care systems and problems; physician roles in the maintenance of the health of the public; the roles of other health care personnel in the practice of community medicine. The course will include directed field visits and small group discussions.

PREV 501. Issues in Medical Care. (16)

Second year, first half of first semester. Course includes eight two hour small group discussion sessions based on required readings in medical care.

PREV 502. Measurements in Medicine. (18)

Second year, second half of first semester. The course will: present the concepts and methods of evaluation and interpretation of evidence; prepare students for their subsequent course in descriptive and applied Epidemiology; teach the application of scientific method to clinical and population studies; present the concept of biologic variation and methods to describe and measure it; present concepts of disease causation and associations; teach fundamental principles of disease control. The course will be presented by lectures, small group discussions, review of published papers and individual exercises.

PREV 503. Descriptive and Applied Epidemiology. (34)

Small group discussion course to teach: the epidemiology of major systematic disorders; the epidemiologic basis for diagnosis, prognosis, treatment, prevention and control of these diseases; methods of assessment of medical care and disease control program.

PREV 504. Epidemiologic Basis for Clinical Practice. (18)

Correlated with required Ambulatory Care Clerkship. Case presentations and discussions to: correlate clinical medicine; epidemiologic knowledge of the natural history and associations of disease, and understanding of the pathophysiology of disease; demonstrate the application of epidemiologic knowledge to health maintenance and disease within the practice of comprehensive ambulatory care; develop protocols for high quality comprehensive care of ambulatory patients with a broad spectrum of health and disease problems. A clinician and an epidemiologist are jointly responsible for the organization and leadership of each group discussion.

Electives

Summer electives in Community Medicine, Preventive Medicine and Epidemiology are offered to Freshman and Sophomore students. Individual elec-

tive clerkships in comprehensive and preventive medical care are arranged for individual Senior medical students. Tutorials in the epidemiologic basis for diagnosis, management and prevention of disorders in specific clinical specialties are arranged in coordination with the chairmen of the clinical departments in which Senior students elect clerkship.

For Graduate Students

PREV 600. Introduction to Biostatistics 1. (3)

Elective for graduate students. The fundamental concepts of statistical methodology and its mathematical foundation are discussed along with practical application in the fields of biology and medicine. The topics to be covered include: descriptive statistics, probabilistic models, sampling, and hypothesis testing.

PREV 601. Introduction to Biostatistics II. (3)

Prerequisite: PREV 600 or an equivalent course. The topics to be covered include: experimental design, analysis of variance, regression and correlation.

*The first semester, second year courses in 1971 will not conform with the above descriptions as the class is in transition from one curriculum to another. They will be designed to meet the need of this particular class.

PSYCHIATRY

Psychiatry: Faculty and Instructional Staff, Full Time and Geographic Full Time

Professors: Brody (Head of Department), Grenell, Monroe, Rafferty, Weintraub.

Associate Professors: Balis, Derbyshire, Donner, H. Gross, Huffer, Lynch, Mackie.

Assistant Professors: Ault, Albright, Bosma, Bradford, R. M. Brown (Classified), G. Cohen, Donahoe (Classified), Hunt, Jantz, Levy, Penna (ICCMHP), Romero, Sakles, McCue, Modarressi, Mott, Taylo,r Ulgur, Von Muehlen, Weir. Instructors: Armstrong, Ehrlich, Fleming, Genut, Kniffin, Lamb, McDaniel, Vauls, Weinstein.

Assistant: O'Donnell.

Research Professor: Siegman (UMBC) Part-time.

Research Associates: Awad, Einberg, McCulloch, Nakazawa, Starr, Termini.

Research Assistant: Amzel.

Part Time and Volunteer Faculty:

Clinical Professors: Bartmeier, Efron, Kubie.

Clinical Associate Professors: Ascher, Ainsworth, Clemmens, David, Gould, Harris, Hartz, Kohlmeyer, Lisansky, Rappeport, Roseman, Savage, Schnaper,

Styrt, Tuerk, Young.

Clinical Assistant Professors: Boslow, G. P. Brown, Clower, I. Cohen, Cowen, Davis, Dixon, Eichler, Faillace, Fiedler, Fitzpatrick, Gavin, Glaser, Gordon, Gray, M. Gross, Holden Hulfish Kaiser, Lasson, Levin, Lloyd, T. Lynch, Magruder, Maxwell, Mourat, Nosphitz, Ozer, Press, Reed, Robinson, Schonfields, Schweig, Shochet, Sila Whitmarsh.

Clinical Instructors: Becker, Bluth, Burt, Carson, Cicci, Cimonetti, Connor, Croce, Diehl, Finn, Freinek, Griffin, Hamilton, Holder, Johnston, Lewis, McNelis, Martin, Oleynick, Phillips, Saidel, Schamp, Schulz, Spiliadis, Smith, Thistel, Trattner, Weinstock, Weisman, Wilson.

Clinical Consultant: McQueen. Lecturers: Kramer, Kurland.

The general goal of undergraduate psychiatric education is an understaning of human behavior and mental health and illness based on the behavioral sciences and on clinical knowledge. In order to achieve this goal, two independent curricula have been developed: (a) A Basic Course designed to meet the requirements of the general curriculum of the Medical School. This aims at an understanding of the application of psychiatric principles in patient care; (b) An Accelerated Course for those students who enter medical school already interested in pursuing a career in psychiatry.

The Basic Curriculum is organized around three phases: (1) The four semesters of the two "preclinical" years offer an integrated basic science-clinical program. The goal of the first semester is to impart an understanding of the nature of the doctor-patient relationship viewed as a complex transactional process and as a technical instrument; the goal of the second semester is to present scientific "core knowledge" permitting a multi-level approach to behavior; the goal of the third and fourth semesters is to prepare the student for his clinical clerkship. (2) The second phase (junior year) provides clinical experience designed to integrate knowledge acquired in the first two years, and to develop clinical skills. (3) The third phase (senior year) is optional and provides a variety of elective courses—clinical, didactic and research—for the student who is interested in furthering his knowledge and experience in some aspect of the theory and practice of psychiatry and related fields.

PSYH 500. Life Situations, Emotions and Illness Course.

Freshman year, first semester. Ten two-hour sessions, Thursdays 2:30 to 4:30 p.m., September through November. The focal point of the course is on interviews by the instructor with medical and surgical patients, during which the interviewer demonstrates his technique of obtaining a psychosocial as well as a medical history permitting a comprehensive view of the patient's medical, social and psychological problems. An effort is made to elicit material which correlates pathophysiology and organic disease on the one hand and the possible psychopathology and the adaptive-defensive mechanisms used by the patient on the other hand. The emergence of the doctor-patient relationship is extrapolated to suggest how it may either obstruct or facilitate the total therapeutic effort. After each classroom session, groups of three or four students interview the patient on the wards, and often members of his family at home. They report on this at the beginning of the next class. They are assisted in this task by members of the Psychiatric Social Work Service as well as other members of the Institute faculty.

(Lisansky and Staff)

PSYH 501. Introduction to Clinical Communication.

Freshman year, first semester. Six sessions, Thursdays 1:30 to 3:30 p.m., December through January. It is organized around small group experiences conducted by staff. The primary purpose of the course is to introduce the student to communication in clinical situations and to provide him with a set of concepts and techniques that will enable him to develop the communicative skills necessary to effect a transition from an "acute-episodic" patient-clinician relationship to a continuing relationship within

which primary health care can be given by a team of allied health professionals. In these sessions the student is also helped to gain experience in interviewing methods which focus on the organizing function of questions and on the effects of emotional factors in interpersonal communications. Instructional methods include the use of video-taped interviews, "diagnostic tests" of communication skills which permit self-evaluation, and especially designed laboratory exercises in communication.

(Gross and Staff)

PSYH 502. Medical Sociology.

Freshman year, second semester. Sixteen one-hour sessions, Mondays 9:30 to 10:30 a.m. The goal of this course is to provide students with an introduction to the interaction of social factors and the institution of medicine. As currently offered, the course has two major foci: (1) to present the students with selected medical problems with important social implication and (2) to acquaint them with some of the problems of the current health delivery system. In order to accomplish the first goal a series of lectures is offered on the following topics: the delivery of health services, emergency health care, the psychiatric emergency, the socio-medical aspects of human sexuality, drugs, aging, alcoholism, and death and dying. The second goal of the course is accomplished by means of student investigation of a number of health delivery systems in the Baltimore area. (Derbyshire and Hunt)

PSYH 503. Basic Concepts of Dynamic Psychiatry.

Freshman year, second semester. Thursdays, 1:30 to 2:30 p.m.

(a) Child Development: Four sessions. An introduction to the concepts of structure and function as determined by time and their cyclic interaction. The time period of childhood growth and development is used to illustrate how organism-environmental interaction becomes intra-psychic and intro-organismic structure. (Rafferty and Staff) (b) Psychodynamic Theory: Eight sessions. This course aims at developing an understanding of the basic concepts of psychoanalytic theory with a focus on the development of personality as a resultant of forces impinging from the individual's internal and external environment. The course further demonstrates how emotions determine their own type of logic not unlike a foreign language. An understanding of psychodynamics enables one to gain insight into this logic (or language) in both the normal and abnormal personality. (Schnaper)

(c) General Psychopathology: Four sessions. The goal of this course is to assist the student to develop a phenomenological and dynamic understanding of psychopathology, with special reference to the defensive-adaptive aspects of the reparative process in symptom-formation in both neurotic and psychotic reactions, as well as in organic brain syndromes.

(Balis)

PSYH 504. Biological and Behavioral Sciences.

Freshman year, second semester, Thursdays 2:30 to 3:30 p.m.

(a) Behavioral Sciences: Eight sessions. These lectures are intended to outline basic concepts of the behavioral sciences as they relate to the pathogenesis of physiological and psychosomatic disease. As such, the genetic, developmental and environmental factors regulating behavior are discussed with a focal point on Pavlovian and operant conditioning.

(Lynch)

(b) Biological Substrates of Behavior: Eight sessions. The focal point is the study of the brain and its role in determining behavior. Among the topics presented in this course are: sensory deprivation, brain changes with enriched versus impoverished environments, sensory processes and their relation to behavior, learning and memory, the brain and emotions, and basic concepts of psychopharmacology. (Grenell)

PSYH 505. Introduction to Clinical Psychiatry.

Sophomore year, 64 hours, 1½ hours weekly, during two semesters. The initial semester (one hour twice weekly) consists of lectures, films and patient demonstrations alternating with small group discussions. A goal is to acquaint the student with psychiatric nosology at the phenomenological level. Pathological reaction types and psychological mechanisms involved in their development are identified. The goal of the course in the second semester is to help the student learn clinical skills, both diagnostic and therapeutic, and to prepare him for his clinical clerkship. It focuses on interviewing techniques, the recording and evaluation of psychiatric data (history writing, mental status and psychodynamic formulation) and on treatment procedures. Guest lecturers present material on forensic psychiatry, community psychiatry, group processes and communication and history of psychiatry. (Monroe and Staff)

PSYH 506. Junior Year Clinical Clerkship.

In compliance with the new curriculum of the Medical School, the Department of Psychiatry offers junior students two major alternative clinical clerkships in psychiatry:

- (A) A Three-Week Clerkship (alternating with a three-week clerkship in neurology) and (B) A Six-Week Clerkship. The assignment of students to these clerkships is made on the basis of the student's preference.
- A. Three-Week Clinical Clerkship: One-half of the junior class takes this clerkship at the Spring Grove State Hospital in groups of six students each. It involves primarily an inpatient experience with acutely psychotic patients during which students are given the opportunity to work intensively with one patient under staff supervision and are exposed to a number of patients for exercise in diagnosis, as well as to various clinical situations and treatment modalities. Students attend ward meetings, clinical conferences and seminars conducted by visiting faculty from The Psychiatric Institute, family therapy and psychodrama sessions, and are required to write a comprehensive "case work-up" on their intensive study patient. All students taking this clerkship are expected to attend on Thursdays, for six weeks, conferences and seminar series given at The Psychiatric Institute.

(Clower, Wilson and Staff)

- B. Six-Week Clinical Clerkship: This clerkship is offered to the one-half of the class that does not elect neurology in the junior year, and involves twelve students per group. It is further differentiated into six tracks (A, B, C, D, E and F), with two students assigned to each track. Each of these tracks is served by a separate clinical facility and has its own group of instructors for clinical supervision. This track-system is intended to make the core program more flexible and logistically feasible and to introduce some degree of differentiation into certain specialized aspects of psychiatry. All students are expected to attend jointly on Thursdays several conferences and seminars dealing with review of symptoms, interviewing techniques and psychological testing.
- 1. Combined Clinical Clerkship: Psychiatric Institute, Tracks A and B. This involves a simultaneous assignment to Inpatient, Outpatient and Liaison Divisions. On the Inpatient Division the student's experience is structured around the assumption of responsibility for the work-up and beginning treatment of a newly admitted patient under the supervision of a ward chief and a resident-preceptor. The student attends a variety of staff meetings, and participates in milieu therapy. The student's outpatient experience involves intensively supervised work in the Brief Therapy Clinic and is supplemented by a student clinical case conference and a home visit focusing on a comprehensive case study. Simultaneously students participate in Liaison Division activities and receive group supervision on interview techniques and brief psychotherapeutic approaches for emotionally disturbed patients in the General Hospital. They also attend a weekly psychosomatic conference. (Weintraub, Huffer, Gross and Staffs)

- 2. Community Psychiatry Clinical Clerkship: Inpatient Ward and Community Mental Health Clinics of the ICCMP, Track C. The main focus of the program is on short-term management, family interviewing, group therapy, milieu therapy and crisis intervention.

 (Penna, Kohlmeyer and Staff)
- 3. Child Psychiatry Clinical Clerkship: Child Psychiatry Division, Track D. This clerkship focuses on the psychiatric evaluation and short-term clinical management of the common emotional disorders of pediatric practice. Interviews with parents, a home visit, a school visit and supervised contact with referring agencies are included in the program. Clinical experiences and supervision are supplemented by divisional seminars and conferences.

 (Rafferty, Modarressi and Ault)
- 4. Private Psychiatric Hospital Clinical Clerkship: Tracks E and F involve clerkships in private hospital psychiatry and are offered by the Sheppard and Enoch Pratt Hospital (Dr. Dixon and Staff) and the Seton Psychiatric Institute (Dr. Lynch and Staff). This clinical experience focuses primarily on closely supervised work with hospitalized patients, mostly psychotic, and includes participation in milieu therapy, group therapy and ongoing staff conferences.

PSYH 507. Senior Year Elective Courses.

The Department of Psychiatry offers a variety of senior electives—clinical, didactic and research—designed to enable the student to further his skills and knowledge in the areas of his special interest. Full-time clinical courses include: Intensive Individual and Group Psychotherapy, Brief Psychotherapy, Preventive and Community Psychiatry for Children, Psychiatry for the General Practitioner, Treatment of Narcotic Addiction, Practicum in Marriage and Family Counseling, and Inpatient Experience in Affiliated Hospitals at Sheppard and Enoch Pratt Hospital and Seton Psychiatric Institute. Students may also take courses in approved institutions in the United States or abroad. There are also part-time clinical courses in the area of alcoholism, family dynamics, psychodrama, drug abuse, forensic psychiatry, and sensitivity training, as well as didactic seminars on sexual behavior, principles of learning and behavioral genetics. Research courses cover a wide area, including urban communities and group processes, psycholiniguistics and communication, biological bases of behavior, clincal psychiatry, psychophysiology and behavioral research. Individual preceptorships are also available.

PSYH 508. Accelerated Course in Psychiatry.

This is an elective four-year accelerated program limited to a small number of selected students who enter medical school with an already established interest in pursuing a career in psychiatry. The program began in the academic year 1970-1971, and is under the direction of a Subcommittee chaired by Dr. Weintraub. The curricular organization and administrative implementation of this program are still under consideration. The main features of this new track include: an early and intensive training in psychiatry organized around an advanced curriculum beginning in the freshman year and continuing through the four years of medical education, summer clinical clerkships and senior year electives in psychiatry, and partial integration with the Institute's residency training program. The program uses mostly extra-curricular time and relies heavily on the student's motivation. Upon graduation, the student is expected to have completed the equivalent of one year of residency training in psychiatry.

Medical Student Summer Fellowship

This is an eight-week program and includes sixteen students supported by HIMH traineeships. The majority of these students are assigned to the various clinical facilities of The Psychiatric Institute and participate in an intensive program which includes individual supervison, conferences and seminars, and involvement in clinical or research projects. A few students may also be assigned to the Sheppard and Enoch Pratt Hospital and the Seton Psychiatric Institute.

RADIOLOGY

Professors: Dennis (Head of Department), Davidson, Hearn, Lyon and Wizen-

berg.

Associate Professors: Ayella, Knox, Kusakull and Robinson.

Assistant Professors: Hyman and Nilprabhassorn.

Instructors: Andelman, Kim, Lewis, Stofberg, Snyder, Thomas and Wallop.

RADL 501. Radiologic Anatomy. (12)

First year, first semester. A correlated course is given in conjunction with the Department of Anatomy. This course consists of nine lecture-demonstrations devoted to the skull, chest, gastrointestinal tract, genitourinary tract, the spine, and joints. Not only is the normal anatomy shown, but the radiologic aspects of a few pathologic processes are also shown for emphasis and correlation.

RADL 503. Radiation Therapy Orientation. (5)

Third year. This series of five lectures is given to the whole third year class to present the basis of radiation therapy. In the first lecture, the basic principles of radiotherapy and the present and future role of radiotherapy of malignant tumors is presented. The second lecture is devoted to the principles of radiobiology, radiophysics and radiation protection. The last three lectures deal with groups of tumors that are curable with ionizing radiation with a discussion of the principle indications, management and results of radiotherapy in each of these groups.

RADL 504. Radiologic Orientation 1. (33)

Third year. A series of lecture-demonstrations are given to small groups of students at the Baltimore City Hospital, Mercy Hospital, and the University Hospital. An attempt is made to cover the roentgen studies of all systems of the body with demonstrations of the more common lesions encountered in each system. At Baltimore City Hospital, twelve lecture-demonstrations are given on the chest, the genitourinary tract and metabolic bone diseases, while at Mercy Hospital, three hours are devoted to the arthritides and bone tumors. At the University Hospital, eighteen additional lecture-demonstrations are devoted to the lungs, gastrointestinal tract, heart, and skull.

RADL 505. Radiologic Orientation II. (60)

Fourth year. Students in groups of five are assigned full time for a period of two weeks to the Diagnostic Division of the Department of Radiology. On alternate mornings, a student observes chest and gastrointestinal fluoroscopy, interviews outpatients and correlates the clinical and roentgen findings on these patients and attends film reading sessions with the staff radiologists. The students are taught the basic principles of fluoroscopy and are assigned a few patients with pulmonary and cardiac lesions to fluoroscope. Recommended reading assignments are made and the students spend the afternoons studying a select group of teaching cases which are correlated with these reading assignments. Daily diagnostic conferences are held with the students, and at this time the interesting cases of the day are presented. They also attend joint conferences held with the department of Pediatrics, and the Division of General and Thoracic Surgery.

REHABILITATION MEDICINE

Professor: Richardson (Head of Department).

Associate Professors: Cohen, Dowling, Fleischer, Gessner and Schonfield.

Assistant Professors: Balsam, Goldfine, Kemp, Lentz and Raab. Instructors:: Beaudet, Elwood, Furnary, Hendry and Sherrill. The Department participates in several interdepartmental courses, namely Ambulatory Care in the senior year, and Introduction to Medicine (Physical Diagnosis) and Musculoskeletal Systems in the sophomore year. Several Electives are offered in the senior year as well. Through these teaching activities, the Department of Rehabilitation Medicine contributes to the students' knowledge of physical medicine and rehabilitation techniques in the diagnosis, evaluation, and management of many disorders which have in common abnormalities of mobility. Opportunity is provided for the student to work with and learn the contribution of the allied health professions in the rehabilitation process.

Student fellowships of one month's duration are available throughout the year. These are open to students of any medical school in the United States as part of a program sponsored by the Commission on Education in Physical

Medicine and Rehabilitation.

SURGERY

Professors: Mansberger (Acting Head of Department), Arnold, Attar, Blanchard, Cowley, Flotte, Hull, Morgan, Smith, Yeager and Young.

Associate Professors: Abrams, Adams, Currie, Galleher, Hankins, Heck, Hubbard, LaBrosse, Johnson, McAslan, McLaughlin, Mosberg, Ollodart,

Schmeisser, Tansey and Thompson.

Assistant Professors: Beazley, Beebe, Belcher, Bowie, Campbell, Cicci, Cranley, Engel, Ferris, Garbus, Greenstein, Henein, Lipcovic, Love, Lynn, Marks, Masaitis, Mays, Mech, Paul, Schwarz, Siwinski, Turney, Urban, Vitek, Wenzlaff and Staff.

Experience in the discipline of Surgery is concentrated in the third and fourth years of medical school. One-fourth of the third year class is assigned to the Department for a nine week period, with time equally divided between General Surgery and Sub-specialties experience. (Orthopaedic Surgery, Otolaryngology and Urology).

Expansion of interest developed by the third year students can be obtained by electing one or more of a variety of General Surgery or Specialty

rotations in the fourth academic year.

Summer Fellowships are available each summer for a period of ten weeks in the Surgical Research Laboratory. Both Freshman and Sophomore students are eligible. Investigative problems related to these services will be undertaken under the guidance of members of the Surgical Staff.

DIVISION OF GENERAL SURGERY

Doctors: Adams, Beazley, Beebe, Bowie, Ferris, Flotte, Hubbard, Hull, Johnson, Mansberger, Novin, Ollodart, Smith, Stewart, Yeager and Staff.

GSUR 500. Third Year.

This Division conducts its teaching experiences in the University of Maryland Hospital, the Baltimore City Hospital, the Maryland General Hospital, and the Mercy Hospital. Identical core material reading is required, regardless of the student's hospital assignment. The overall program is designed to give a broad overview of the surgical illnesses of adult patients, both men and women, and of children. This overview includes patients with infections, neoplasms, trauma, and acquired diseases of

great variety, who require extensive medical evaluation, followed usually by surgical therapy. For each of the hospitals, except for Baltimore City, this experience includes contact with both private and non-private patients. Patient work-ups, the planning of therapy and the conduct of operations, postoperative care and rehabilitation of patients, are all properly a part of this experience. Emphasis is placed on the correlation of basic science information with the clinical diagnosis and management of surgical patients.

DIVISION OF ORTHOPAEDIC SURGERY

Doctors: T. Morgan (Head of Division), Schmeisser, Tansey and Staff. OSUR 510.

Third year students are assigned to this Division in the Out-patient and In-patient Services at the University of Maryland Hospital and at the Baltimore City Hospital. Patients are seen for diagnosis and for post-operative care. Instruction is given in the ambulatory management of Orthopaedic problems, and in the application of Physical Therapy to patients with Orthopaedic disease. Fundamentals of Orthopaedic diagnosis and treatment are presented.

DIVISION OF OTOLARYNGOLOGY

Doctors: Blanchard (Head of Division), Engnoth, Hammond, Natale and Staff. Maryland General Hospital: Drs. Clayton, Dix, Dwyer, Nachlas, Rosell, Alvin Rudo, Snyder, Steiner and Stichel.

OTOL 520. Third Year—University of Maryland Hospital.

Mercy Hospital: Drs. Gerlach and Isaacs.

Third year students are individually instructed in the techniques of the examination of the ears, nose and throat. One hour of basic audiological technique is presented to each group by an Audiologist, one hour of introductory Speech Pathology is presented by a Speech Pathologist. Fundamental elements of Otolaryngologic diagnosis and therapy are stressed.

DIVISION OF UROLOGIC SURGERY

Doctors: Young (Head of Division), Campbell, Galleher, Mays and Staff. USUR 530.

Instruction is given to Junior students in this Division in the diagnosis of Urologic Diseases of men and women. The general aspects of instrumentation are discussed and the roentgenologic evidence of urologic disease is emphasized. Fundamentals of urologic diagnosis and therapy are stressed. The group assigned to this Division receives their instruction either at the University of Maryland, or at the Mercy Hospital.

SURGERY FOR SENIORS

Doctors: Beebe and Staff.

In the fourth year the following electives are available within the discipline of Surgery:

SURG 550. Principles of Surgery-6 Week Course.

The objective of this course is to permit students to inquire in depth into basic surgical principles and to apply these immediately in Animal Surgery. Emphasis is on surgical precepts by doing surgical procedures. Sessions include Vascular Surgery, Biliary Tract Surgery, Gastrointestinal Surgery and Pulmonary Surgery. Hours of participation are one afternoon per week.

DIVISION OF GENERAL SURGERY

Doctors: Mansberger, Belcher, Bowie, Flotte, Hubbard, Hull, Johnson, Ollodart, Gardner Smith, Stewart, Yeager and Staff.

SURG 551.

This service deals with both adult patients and children with all forms of surgical disease. Students are assigned to the various hospital wards and services in general surgery; they are responsible for the patient history and physical examination. They participate actively in all patient care and treatment and are responsible, under supervision, for post-operative care. Daily ward rounds and formal classes are held. Student assignments are in 4-week multiples.

- 551-a. University of Maryland Hospital—Male service.
- 551-b. University of Maryland Hospital—Female/children service.
- 551-c. University of Maryland Hospital—Private service.
- 551-d. Maryland General Hospital—Surgical Ward Clerkship.
- 551-e. Mercy Hospital—Surgical Ward Clerkship.
- 551-f. Baltimore City Hospital—Surgical Ward Clerkship.
- 551-q. U.S.P.H.S. Hospital—Surgical Ward Clerkship.

DIVISION OF NEUROLOGICAL SURGERY

Doctors: Arnold, Crosby, Paul, Thompson, Mosberg and Staff.

NSUR 555.

555-a. Clinical Neurosurgery.

The student will participate in the full activities of the Division of Neurological Surgery. Cases will be assigned to each student, and he will be required to observe diagnostic studies and, in most cases, will either scrub in or be in the operating room on cases to which he has been assigned. He will attend daily rounds with the house staff and twice weekly rounds with one member of the visiting staff. He will also see patients in the Emergency Room with members of the house staff. He will attend a neuropathology conference once weekly and a clinical and x-ray conference once weekly.

The duration of the clerkship will be in four week multiples.

555-b. Pediatric Neurosurgery.

This is a preceptorship type of experience, of 4 weeks duration. The student will spend his daytime hours with the Pediatric Neurosurgeon, Dr. R. M. N. Crosby. This experience will include both private office and hospital contact and the student may also participate in neurosurgical operations.

This service is conducted only in the months of July, October, February and April. It is largely available to those particularly interested in this field of surgery.

DIVISION OF OTOLARYNGOLOGY

Doctors: Blanchard, Engnoth, Cecci, Urban and Staff.

OTOL 560.

560-a. Basic Clinical Otolaryngology.

This course provides intensive exposure to diseases of the ears (hearing and balance), nose, oral cavity, pharynx, larynx, and neck. The emphasis will be on practical aspects of examination, diagnosis and treatment of disease in these areas. The major portion of this elective will be in the Out-Patient Clinic. Par-

ticipation in in-patient surgery can be individually arranged for interested students. Scheduled conferences are held for presentation of diagnostic and therapeutic problems, speech and audiology, otolaryngologic pathology, and basic aspects of otolaryngology.

This course may be taken in 2 week multiples.

This course is directed toward any student who will be dealing with diseases of the head and neck. It should be particularly pertinent to those interested in family medicine, pediatrics, neurology, neurosurgery, physical medicine, ophthalmology, general surgery, thoracic surgery, radiology, internal medicine, and of course, otolaryngology. It is also a prerequisite for any other courses in otolaryngology.

560-b. Surgical Otolaryngology.

Prerequisite course in Basic Clinical Otolaryngology. Each externe is given supervised opportunity to be responsible for pre and postoperative evaluation and care of patients on the otolaryngology service, as well as participate in their operative procedures. He will also participate in direct laryngoscopy, bronchoscopy, and esophagoscopy procedures. Otoneurologic diagnosis including electronystagmography and techniques are available for those interested. Regularly scheduled conferences are held as described in the basic course. Course is given in 4 week multiples.

560-c. Communication Disorders.

Prerequisite course in Basic Clinical Otolaryngology. Two inter-related areas are presented in this period. The first is hearing, with emphasis on audiology as related to clinical problems of diagnosis and rehabilitation. The second will include speech and language development and their disorders, developmental and acquired. An introduction to the theory and techniques of habilitation and rehabilitation of communication problems are presented.

Duration of Course-Four weeks.

Hours of Participation—To be individually arranged.

560-d. Basic and Experimental Otology.

Prerequisite course in Basic Clinical Otolaryngology. This course presents an in-depth exposure to clinical audiology and otology. Basic physiology, anatomy and pathology of the hearing mechanism will be covered. Techniques and interpretation of electronystagmography and cortical evoked audiometry will be covered. Concurrently, the student will participate in correlated work in the temporal bone laboratory. This will include the preparation, dissection and examination by phase contrast and light microscopy of experimental animal and human temporal bones.

Duration of Course-Four weeks.

DIVISION OF ORTHOPAEDIC SURGERY

Doctors: Morgan, Tansey, Abrams, Greenstein, Tountas, Reichmister, Schmeisser and Staff.

OSUR 565.

This course is designed to teach the recognition and treatment of patients with acute fractures, metabolic bone disease, bone tumors and developmental and acquired deformities of osseous tissues. The service is devoted largely to the care of adult patients with a small volume of children's orthopaedic disease.

565-a. University of Maryland Hospital.

565-b. St. Agnes Hospital.

566-c. James L. Kernan Hospital for Crippled Children.

The small structural size of the hospital does preclude an extensive program and the work is mainly on elective admissions and therefore no night work is necessary. It is quite suitable for one or two students to attend there. This hospital is an attractive one and the affiliation offers mainly children's elective orthopaedics with some adult orthopaedic work in addition. There is also opportunity here to see some plastic surgery and major dental reconstructive work.

Duration of Course—one month.

567-a. Montebello State Hospital.

This hospital is available to one to two students only, through arrangement with the Chief of the Division of Orthopaedic Surgery. It offers a wide range of chronic diseases, cared for in a superb fashion by a staff of physiatrists. The availablity of material and records for clinical research is unequal in the State of Maryland, and for this reason Montebello can be considered as a Senior year elective for those interested in pursuing some fundamental clinical problem related to rehabilitation.

568-a. Baltimore City Hospitals.

Clinically oriented courses in the principles and techniques of Orthopaedic Surgery are offered at the Baltimore City Hospitals to a limited number of applicants. Activities include personal participation in diagnosis and management of a wide variety of musculo-skeletal problems, with special emphasis on fractures and joint injuries. Scheduled didactic exercises include daily X-ray Conference and Rounds, special afternoon classes, and weekly Grand Rounds. Clinical investigation may be correlated with ward work. Full-time—fourtwelve weeks. Schedule and responsibilities are adjusted individually.

DIVISION OF THORACIC SURGERY

Doctors: McLaughlin (Head of Division), Attar, Cowley, Miller and Staff.

TSUR 570.

570-a. Clinical Thoracic Surgery Clerkship.

Each clinical clerk will be given supervised opportunity to be responsible for the pre and postoperative care, as well as participation in the technical aspects of thoracic and cardiovascular procedures. Emphasis is placed on diagnostic techniques and cardiovascular and pulmonary physiology and pathophysiology. Daily rounds with the University of Maryland Thoracic Residents and Attending Staff are conducted. A wide variety of conferences, seminars and clinics are available to the student. Service in four week multiples.

DIVISION OF TRAUMA

Doctors: Cowley (Head of Division), Attar, Hankins, Hanishiro, Turney and Staff.

TRAU 571.

Each clinical clerk is given supervised opportunity to be responsible for the treatment of critically ill patients who have sustained trauma and/or low profusion states. Emphasis is placed on resuscitative techniques and the correlation and use of laboratory values both biochemical and physiological in the treatment of the critically ill patient. (Blood gases, renal clearance, pulmonary function, etc.) Twice daily rounds are held with the Shock Trauma Residents and with the Attending Staff. Multiple research and clinical conferences relating to the management of persons with trauma are available to the student.

DIVISION OF UROLOGIC SURGERY

Doctors: Young, Campbell, Galleher, Mays and Staff.

USUR 575.

575-a. Each Senior student who elects an externship in Urology will participate in the care of patients and in the daily conferences of the Division. There are periodic conferences with the Department of Pediatrics and the Division of Endocrinology. The course is designed to teach Urologic principles and recognition of practice. The course is given in 4 week multiples.

CONTINUING EDUCATION COURSES

THE COMMITTEE ON CONTINUING MEDICAL EDUCATION

E. T. LISANSKY, M.D., Chairman and Director JOHN H. MOXLEY III, M.D., Dean, Ex-Officio

GEORGE H. YEAGER, M.D., Director of Hospital, Ex-Officio

RAYMOND L. CLEMMENS, M.D. THOMAS B. CONNOR, M.D.

VIRGINIA HUFFER, M.D.

ARLIE R. MANSBERGER, JR., M.D. EDMUND B. MIDDLETON, M.D.

ERLAND NELSON, M.D.

FREDERICK J. RAMSAY, Ph.D. HOWARD F. RASKIN, M.D. LEONARD SCHERLIS, M.D. WILLIAM L. STEWART, M.D. THEODORE E. WOODWARD, M.D.

The Committee on Continuing Medical Education, in an effort to assist the practicing physician keep abreast of the newer developments in the science and practice of medicine, continues to offer courses in a variety of subjects as follows:

Basic Electrocardiography

Clinical Cardiology

Coronary Care

Dermatology

Diabetes

Eye, Ear, Nose and Throat

Gynecology

Hematology Neurology

Obstetrics

Renal Disease

Review of Family Practice

Shock Trauma

Visiting Traineeship In-Service Program

Inasmuch as this material is being written so far in advance of the publication of the CATALOG we would suggest that you contact the office of the Committee on Continuing Medical Education to ascertain definite dates for courses to be given, tuition fees, etc. The telephone number is 955-7266 and 955-7346.

Department of Physical Therapy

SCHOOL OF MEDICINE UNIVERSITY OF MARYLAND

PHYSICAL THERAPY

The Department of Physical Therapy of the School of Medicine administers a 4-year curriculum leading to a Bachelor of Science Degree. The curriculum consists of 139 semester hour credits: 63 in liberal arts and sciences, 4 in health and physical activities and 72 in professional courses. The freshmen and sophomore students are registered on the College Park or Baltimore County Campus and the junior and senior students on the Baltimore City Campus. Qualified students from other accredited universities or colleges who have successfully completed appropriate courses may be admitted directly to the professional program at Baltimore.

The educational program is accredited by the Council on Medical Education of the American Medical Association in collaboration with the American

Physical Therapy Association.

For detailed information refer to the BULLETIN issued by the Department of Physical Therapy. This can be obtained by writing to the Department of Physical Therapy, School of Medicine, 520 R West Lombard Street, Baltimore, Maryland 21201.

Faculty

PAYTON, Otto D., Assistant Professor and Head of the Department; B.S. and C.P.T., University of Kansas, 1956; M.S., Ed., University of Indiana, 1964.

DOSER, Nancy Lou, Instructor; B.S., Longwood College, Va., 1953; C.P.T., University of Southern California, 1959; M.S., Northern Illinois University, 1963.

HARDIMAN, Clarence W., Assistant Professor; B.S., University of Florida, 1949; C.P.T., Duke University, 1950; M.S., Florida State University, 1958; Ph.D., 1963.

KENDALL, Florence, Lecturer; B.S., University of Minnesota, 1930; C.P.T., Walter Reed General Hospital, 1932.

NOVELL, Joan, Instructor; B.S., University of Connecticut (major in Physical Therapy), 1955. REID, Marlene, Instructor; B.S. and C.P.T., University of Michigan, 1966; M.S., 1969.

SHOTTER, Lillian, Assistant Professor; B.S., Madison College, Va., 1933; C.P.T., New York University, 1935; M.A., Columbia University, 1950.

UDE, Robert H., Instructor; B.S., University of Missouri (major in Physical Therapy), 1966. WILDE, William F., Instructor; B.S., Ohio State University, 1949; C.P.T., Frank E. Bunts Educational Institute, 1954; M.A., Ohio State University, 1968.

Members of other departments of the Medical and Nursing Schools present the medical, surgical and nursing lectures assisted by the faculty of the Department of Physical Therapy.

Clinical education is conducted at the University of Maryland Hospital and other clinical affiliations by the academic and clinical faculty.

PHYSICAL THERAPY CURRICULUM

FRESHMAN YEAR

TRESTIMAN TEAR		
Semest	er Hour First	Credits Second
CHEM 103, 104—College Chemistry I, II	4	4
ENGL 101 or 171—Composition	3	
MATH 110, 111—Introduction to Mathematics	3	3
PHIL 100—Introduction to Philosophy (or course in Fine Arts)		3
CPPT 110, 111—Orientation to Physical Therapy	1	1
PSYC 100—Introduction to Psychology		3
SPCH 100—Public Speaking		3
SOCY 100—Introduction to Sociology	3	
3 ,		
Academic Hours	14	17
PHED—Required Physical Activities	1	1
HLTH 105—Science & Theory of Health	2	
Total Hours	17	18
SOPHOMORE YEAR		
ENGL—Choice of American, English or World Literature	3	3
HIST—Choice of History, except State	3	3
PHYS 121, 122—Fundamentals of Physics	4	4
PSYC—Choice of Psychology courses	3	3
ZOOL 101—General Zoology	4	
ZOOL 102—Animal Phyla		4
Total Hours	17	17

For course descriptions refer to the University publication "Consolidated Undergraduate Catalog."

Students who are transferring from a regionally accredited college and wish admission to the junior year must have completed 65 academic semester hour credits in courses comparable to those listed above with 2 S.H.C. of substitution for CPPT 110, 111 and a year of physical education and health (4 S.H.C.). Transfer students must have a cumulative grade point average of 2.5—courses in which "D" grades were obtained are not transferrable.

JUNIOR YEAR		
MANA 301, 302—Human Anatomy	5	5
MEDC 301, 302—Clinical Medicine I, II	2	2
PATH 301—Pathology		3
MPHS 301—Human Physiology	4	
BTPT 301, 302—P.T. Theory & Practice I, II	3	2
BTPT 303—Rehabiliatation I		- 1
BTPT 304—Nursing Procedures Related to Physical Therapy	1	
BTPT 305—Professional Orientation & Ethics	1	
BTPT 306—Therapeutic Exercise I		2
BTPT 310, 311—Clinical Education I, II	1	1
Total Hours	17	16
SUMMER (6 weeks)		

BTPT 312—Clinical Education III

SENIOR YEAR

MANA 351—Biomechanics & Kinesiology	3	
MEDC 351, 352—Clinical Medicine III, IV	3	1
MPHS 351—Applied Physiology	2	
BTPT 351—Evaluation Procedures	2	
BTPT 353—Therapeutic Exercise II	3	
BTPT 354—Rehabilitation I		2
BTPT 355—P.T. Theory & Practice III	3	
BTPT 356—Public and Community Health		2
BTPT 365, 366—Clinical Education IV, V	1	6
BTPT 360—Biostatistics & Research		3
BTPT 362—Current Literature		1
BTPT 364—Administration		1
Total Hours	17	16

Description of Courses

PHYSICAL THERAPY

Numbers in parentheses indicate semester hour credits and approximate clock hours.

CPPT 110, 111. Physical Therapy Orientation. (1,1-32)

General introductory course to the profession of physical therapy and the relationship to other health professions. Orientation of the student is done by visual aids, discussion and visits to physical therapy departments.

MANA 301, 302. Human Anatomy. (5,5-288)

Prerequisites, zoology 8 hours. The student is given an opportunity to develop a basic concept of the morphology of the human body through a correlation of histology gross anatomy and neuroanatomy. Dissection of the human body, on a regional basis, including the brain is required. Three hours of lecture and six hours of laboratory a week.

MEDC 301. Clinical Medicine I. (2-32)

Prerequisites, psychology 9 hours. Lectures in psychiatry (22 hours) with special emphasis on psychosomatic disorders, personal and social factors affecting the handicapped and patient-therapist interactions. Lectures in dermatology (10 hours) including the anatomy and function of the skin, symptomatology, and treatment of skin diseases.

MEDC 302. Clinical Medicine II. (2-32)

Prerequisite, Physiol. 101. Continuation of C.M. 101 with lectures in medicine to include the symptoms and treatment of patients with involvement of the pulmonary, cardiovascular, genitourinary, gastrointestinal, endocrine and reproductive systems.

PATH 301. Pathology. (3-48)

Prerequisites, Anat. 101 and Physiol. 101. This course includes the study of the basic principles of disease and injury with their application to the various systems of the body. An autopsy and pathological specimen are observed.

MBIS 301. Human Physiology. (4-112)

Prerequisites, zoology 8 hours and chemistry 8 hours. The lectures cover the major fields of physiology, including the following areas: central and peripheral nervous systems, neuromuscular apparatus, heart and circulation, respiration, kidney and body fluids, gastro-intestinal tract, endocrines and reproduction. Three hours of lecture, three hours of laboratory and one hour conference a week.

BTPT 301. Physical Therapy Theory and Practice I. (3-96)

Manipulative Procedures (48 hours)

Students are laught to investigate by means of palpation of topographical anatomy those areas responsible for restricting range of motion or inhibiting functional activity and to apply appropriate manipulative soft-tissue techniques to reduce pain, release contractures of muscles and scar tissue adhesions. The theory and physiological effects are discussed. One hour of lecture and two hours of laboratory a week.

Hydrotherapy (48 hours)

The physics of water and the principles of thermometry are reviewed. The physiological effects of local and general application of heat and cold on the human are studied both didactically and in the laboratory. Procedures which are taught include application of hot and cold packs, whirlpool, Hubbard tank, moist air, paraffin as well as principles and methods of underwater exercise. The therapeutic indications and limits of each of these procedures are stressed. One hour of lecture and two hours of laboratory or clinical practice a week.

BTPT 302 Physical Therapy Theory and Practice II. (2-64)

Prerequisite, physics 8 hours. This course includes lectures and practice in the administration of infrared, ultraviolet, diathermy, microthermy and ultrasonics. The physics and physiological effects are reviewed thereby enhancing the student's ability to make judgment in the therapeutic application of the procedures. Two hours of lecture and two hours of laboratory or clinical practice a week.

BTPT 303. Rehabilitation 1. (1-32)

A study of the basic philosophy underlying comprehensive care of the physically handicapped, its principles and practices. The essential role of the physical therapist in the total treatment program is stressed. An introduction to functional, training, ambulation and the application of assistive and supportive devices is included. One hour of lecture and one hour of laboratory or clinical practice a week.

BTPT 304. Nursing Procedures Related to Physical Therapy. (1-32)

This course, taught by a nurse and a physical therapist, is designed to cover the cooperative relationship between the two professions in patient care to include supportive and aseptic bandaging, isolation procedures, oxygen therapy, cardiopulmonary resuscitation, drainage, first aid and vital signs. One hour of lecture and one hour of laboratory or clinical observation a week.

BTPT 305. Professional Orientation and Ethics. (1-16)

A broad interpretation of the qualifications of a profession and a base introduction to ethics is presented. The history and development of physical therapy as a profession is reviewed. Particular emphasis is placed on the student's understanding of and development of professional and ethical behavior.

BTPT 306. Therapeutic Exercise 1. (2-64)

This course covers the history and scope of therapeutic exercise, patterns of movement and posture (normal and abnormal) and a study of developmental and physiological principles of purposeful graded exercises for the prevention and treatment of physical disabilities. One hour of lecture and three hours of laboratory or clinical practice a week.

BTPT 310, 311. Clinical Education 1, 11. (2-96)

Clinical observation and experience in patient care with emphasis on utilizing the procedures concurrently learned in other courses. Three hours a week.

BTPT 312. Clinical Education III. (4-210)

A continuation of P.T. 108. The student has the opportunity to become more proficient in applying to patients the procedures learned in the first year and to observe other procedures to be learned in the second year. The student has six weeks of full-time (approximately 35 hours a week) clinical experience, spending three weeks at two different hospitals or agencies.

MANA 351. Biomechanics and Kinesiology. (3-96)

Prerequisites, Physics 8 hours, Anat. MANA. 301, 302. A detailed study of motion in the human body with emphasis on its mechanical and functional aspects. It is designed to include observation and analysis of movement as it occurs in man under both normal and pathological conditions. Two hours of lecture and four hours of laboratory a week.

MEDC 351, 352. Clinical Medicine III, IV. (3, 1-64)

A continuation of MEDC. 302, with 16 hours of lecture in each of the specialities—surgery, pediatrics, neurology and orthopedics. The symptoms and treatment of patients with conditions most frequently referred to the physical therapists are stressed.

MPHS 351. Applied Physiology. (2-48)

Prerequisite, MPHS. 301. A study of physiology as it applies to exercise and its effects on the various systems, especially the cardio-pulmonary and neuro-muscular, in normal and pathological conditions. One hour of lecture and two hours of laboratory a week.

BTPT 351. Evaluation Procedures. (2-64)

The principles, techniques and interpretation of those testing procedures within the scope of the physical therapist are taught by discussion and practice with normal and abnormal individuals. These evaluations include manual and functional muscle tests; gonionmetric, girth and length measurements; postural analyses and tests of endurance and coordination and sensory acuity. One hour of lecture and three hours of laboratory or clinical practice a week.

BTPT 353. Therapeutic Exercise II. (3-96)

The course, in continuation of BTPT 306, is designed to help the student develop skill in the correlation and application of the neurophysiological principles involved in the prevention and treatment of physical disabilities as well as to develop skill in planning, teaching and writing programs of exercise. Two hours lecture and four hours of laboratory or clinical practice a week.

BTPT 354. Rehabilitation II. (2-48)

A continuation of BTPT 303. Emphasis is placed on the multi-discipline approach to the special problems of the severely handicapped, such as patients with amputations and spinal cord lesions. Orthotics and prosthetics are studied including preand post-prosthetic evaluation and treatment. Two hours of lecture and four hours of laboratory or clinical practice a week for eight weeks. (Third quarter).

BTPT 355. Physical Therapy and Practice III. (3-96)

This course includes the physics and the physiological effects of low frequency alternating and direct currents as applied percutaneously for therapeutic and diagnostic use. Electromyography and nerve conduction time are included. Two hours of lecture and four hours of laboratory or clinical practice a week.

BTPT 356. Public and Community Health. (2-32)

The principles and methods of public health, including use of public health statistics, epidemiology, environmental health, community health organization and community health planning based on chronic disease epidemiology, are studied. The student has the opportunity to study other health related professions as well as social and health agencies to make him better able to contribute to comprehensive health care. Four hours of lecture a week for eight weeks. (Third quarter).

BTPT 365. Clinical Education IV. (1-48)

A continuation of BTPT 312, offering clinical experience in hospitals or with agencies utilizing advanced physical therapy procedures—especially those being taught in concurrent courses. Three hours a week.

BTPT 366. Clinical Education V. (6-376)

A continuation of BTPT 365. The students are given increased responsibility for patient evaluation, planning the treatment program and administration of physical therapy; thereby integrating all procedures for comprehensive patient care. For the first eight weeks (third quarter) 12 hours a week; for the second eight weeks (fourth quarter) full-time or approximately 35 hours a week. The student will spend four weeks with each of two different hospitals or agencies.

BTPT 360 Biostatistics and Research. (3-48)

Prerequisite, mathematics 6 hours. A course designed to acquaint the student with the need for research in clinical physical therapy with an introduction to research design, mathematical tools and instrumentation. Each student will be expected to participate in a research project during the last semester. One hour of lecture and five hours of laboratory for eight weeks. (Third quarter).

BTPT 362. Current Literature. (1-16)

A course designed to assist the student in evaluating and abstracting current scientific literature in a selected area. Oral visual and written communications are used for presentation. Two hours a week for eight weeks. (Third quarter).

BTPT 364. Administration, (1-16)

Students are given an opportunity to become acquainted with administration and supervision as it applies to the physical therapist. Human (interpersonal relations); intellectual (laws, methods and principles) and material factors (buildings, grounds, equipment) are discussed. Students are given an opportunity to practice written and oral communications, analyze and describe the duties of a physical therapist, write policies for a department and plan a physical therapy department. Two hours a week for eight weeks. (Third quarter).

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THE UNIVERSITY is the rear guard and the advance agent of society. It lives in the past, the present and the future. It is the storehouse of knowledge; it draws upon this depository to throw light upon the present; it prepares people to live and make a living in the world of today; and it should take the lead in expanding the intellectual horizons and the scientific frontiers, thus helping mankind to go forward—always toward the promise of a better tomorrow.

From "The State and the University" the inaugural address of President Wilson H. Elkins January 20, 1955 College Park, Maryland



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